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OFFICIAL SERIES.

THE FARMERS' JOURNAL,

AND

Transactions of the Board of Agriculture

OF

LOWER CANADA.

VOL: XII. NOVEMBER, 1859. NO. 3.

CONTENTS.

(General.)

FARMERS' JOURNAL.—(*Editorial Matter*;) Application of the Sciences to Agriculture; Grazier and Breeder; Poultry Yard; Rural Architecture; Enquiries and Answers; Foreign Agricultural Intelligence, Obituary, and Critical Notices, &c.
HORTICULTURAL JOURNAL.—(*Editorial Matter*;) Entomology, Meteorology; Ladies Department; Markets.
EMIGRATION.

All communications to be addressed—If for the French Journal, to J. PERRAULT, Esq., Secretary-Treasurer and Editor:—If for the English Journal, to JAMES ANDERSON, Esq., F. S. S. A., &c., &c., Editor, Board of Agriculture, Montreal.
N. B.—Communications received before the 15th of each month will appear in the ensuing Number.

*"O! fortunatos nimium, sua si bona norint,
Agricolos! quibus ipsa, procul discordibus armis,
Fundit humo facilem victum justissima tellus."*
VIRG. GEO.

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Montreal 6th Oct. 1859.

SIR,

I have no doubt you are sometimes favoured with angry outpourings from certain correspondents--unsuccessful competitors, against awards which have appeared in the prize lists on the occasion of Public Exhibitions and Trials, with violent antagonism to the system of competitive Trials as at present conducted.

It is presumed, nevertheless, that but few think competitive Trials unworthy of public attention ; for it cannot be denied that when periods of competition come round, and after a fair comparison, inferior and worthless implements are discarded, so that, with judges of ordinary honesty, prizes can reach only such implements and machines as exhibit the best adaptations of power, and turn out the work in the greatest quantity, and of the most superior quality.

It is difficult on all occasions to lay down specific conditions for the trying and testing of certain implements, preliminary to their entry for trial ; and it is very doubtful whether it would not be better, on all occasions, to leave the judges at perfect freedom to give due weight to any consideration or supernumerary perfection, in addition to those enumerated and contemplated in the "Prize List," or prior to testings taking place.

The nearest approximation to perfection being the object, although definite and specific conditions be laid down, there appears to be no rational reason against giving the preference to an Implement or Machine showing perfections in addition to those stipulated in the Prize Lists. This would be only giving encouragement to ingenuity in the right direction. Are we to reject such specimens because we are presented with none that we have bargained for ?

I have always advocated the propriety and advantage whether in the case of Stock, Machines or Implements, of establishing certain clearly defined and specific points for testing each specimen. From the Report of the Transactions of the Board of Agriculture of 1858, such points might be established, and in one of the Numbers of "The Journal" the same year, you gave a list of points for establishing the superiority of Short Horns. These and similar digests would be extremely useful if placed in the hands of judges in every department, leaving them, at sametime, at perfect freedom to use their discretion, and I am persuaded such an arrangement would be attended with the best results. Such digests would of course be prepared with the assistance of the best practical skill in each department.

The object ought to be to publish, on all occasions, such a Report, as should be entitled to remain as a standing authority and truthful record, up to the time of its appearance, of the state of agricultural improvement in the Province, whether

as regards culture, stock, or implements of husbandry. I need say nothing as to the value of such a guide.

I am Sir
Your most obedient Servant,

Rusticus.

To the Editor of The Farmers' }
Journal, &c., &c., &c. }

EXHIBITION IN COMPTON.

The Agricultural Exhibition in the County of Compton was held at Compton Village, on Thursday the 29th September. The show of Horses and Horned Cattle was very large and excellent. The crops in this county are unusually good. Wheat, Oats and Potatoes are better than they have been for years. Hay is light. Indian Corn has been much injured by the frost. The season has been favourable, and our farmers may set this down as a good year.

St. FRANCIS TURF CLUB.

Yesterday was the first day of the St. Francis Turf Club's Autumnal meetings at Sherbrooke. The ground was in excellent order, and the course was an excellent one.

The first Race was for the Members plate of \$100, with an outside stake of \$25. The entries were Mr. Charles W. Starnes, chesnut horse "Mario," and Mr. Hogan's "Yorkshire Lass." This was a beautiful Race of 5 heats. The mare took the first two heats, but not having the bottom of the horse, she was defeated, and the horse took the last three heats.

For the Railway Trotting Purse of \$50. Wright Chamberlin entered his horse "Frenchman"; J. Johnson, "Lady Ballwick"; Mr. Reed, "Dick"; the latter horse was the winner.

For the Tally-Ho stakes, four horses entered: Mr. Chamberlin's "Silkworm"; Mr. Starne's "Kiss me Quick"; Mr. Abbott's "Fanny Fern." The Race was taken by "Silkworm."

Some good Races are expected to day, among others a good Hurdle Race.

PRACTICAL FARMERS, HORTICULTURISTS, AND MEN OF SCIENCE
WE EXPECT YOUR ASSISTANCE.

We hope that the practical Farmers and Mechanics of the Country will make proper use of our columns. Let them not suppose that we desire fine, smooth

and polished writing. We want practical and well digested information—your own ideas and the results of your experiments. By publishing these in our columns, you are only doing your duty to your order, and the agriculture of your country. We hope that our Horticultural friends will also oblige us by sending in contributions. Our scientific columns are ever open to those kind friends who see the propriety of wedding science to practice, and presenting us with the produce. We have already announced that the more lengthy articles shall be reserved for "The Transactions of the Board of Agriculture" appended to each Number of "The Journal," ; and we shall feel much obliged to such excellent friends as may be disposed to favour us with such carefully prepared contributions as ought to find a place in "The Transactions" of the Board.

We have noticed shortly the late Horticultural Exhibition in this City, the Missisquoi Show, the Agricultural Fair of the Niagara Electoral Division. We should have given a Report of the National Fair at Chicago, &c., &c., &c., but our limited space will not permit of it.

We fear we cannot include our intended Remarks on the subject of a new Botanical Garden for our City and the Lower Province. But we shall endeavour in our next Number to take up the subject, and to discuss it at some length.

If we should not be able to find a place in this number for the continuation of our article on Manures, Natural and Artificial, we shall follow up the subject in our next, including some incidental remarks on sanitary Regulations, in connection with the subject of Natural Manures.

We beg to call special attention to the Report of M. McDougall, Esq., M. P. P. which appears in the Transactions of the Board of Agriculture, to be appended to this Number of "The Journal."

We just received an announcement that the Emperor has directed that a Great National Exhibition of Breeding Stock, and of Agricultural Produce and Implements shall take place next year in Paris.

We have observed the judgment against Mr. Bruce, who had erected buildings at considerable expense, in this city for the Manufacture of Artificial Manures. It has been reported to us by reliable authority, that his Manures, has been tested side by side with Guano, and that it proved equal to it on a fair trial. If this should be corroborated by future favourable results, the public, Agricultural and Horticultural, will be deeply indebted to Mr. Bruce and will heartily sympathise with him under present circumstances. Mr. Bruce, has resolved at once to bow to public opinion, and to retire to a locality where the erection of his manufactory, and the prosecution of his manufacture, cannot be objected to on any sanitary pretext,—instead of seeking a new trial, which he might have done persistently. The exhibition of such an excellent and conciliatory spirit on the part of Mr. Bruce cannot be too highly commended. We shall rejoice to see him encouraged in the manufacture of a Manure which is so much wanted ; and we have good reason to believe, that the demand will be permanent, and yearly on the increase, if the quality should continue to give satisfaction. We have already said, that if such a manure were manufactured of first rate quality, there will be not only a large local demand, but a large and increasing export. We

know what is doing in Newfoundland in this way ; and why should not Canada enjoy the fruits of the converted treasures of her Fisheries—manufactured from substances which are at present permitted to go to waste. Although something has lately been done by the Government in this direction ; yet Canada has been hitherto too neglectful of the multiplied treasures which nature has so lavishly bestowed upon her.

The Brome County Agricultural Show took place on the 22nd ult. The exhibition of Horses and Cattle was good. There was also a fair display of home and domestic manufactures.

“The following excellent digest is from our cotemporary the *Montreal Witness*.”

THE PROVINCIAL EXHIBITION.—The Exhibition of the Upper Canada Agricultural Society, at Kingston, last week was a fine one. The number of entries was as large as on any former occasion. We are indebted to some of our cotemporaries, chiefly to the *Gazette*, for the following items of information :

The public proceedings were opened by the Hon. Sir Allan Napier MacNab, who, in the absence of the Governor-General, made an introductory speech. The crowd around him was so dense that it was quite impossible for me to take notes, or even to hear all that he said ; but I caught that he spoke of the sad bereavement of Sir Edmund and Lady Head. The stillness with which his words were listened to indicated the sympathetic feeling of the crowd.

“There are some excellent articles on view, from various towns, which illustrate the important fact that Canada is now producing that which formerly was exclusively obtained from the United States. Nothing demonstrates this more forcibly than the articles of Hay, Manure and other Forks, Garden Hoes, Rakes, &c., &c., which are sent by A. S. Whiting of Oshawa. Mr. Jones, at Gananoque, manufactured of Hay and Manure Forks, Shovels and Spades, over 1,500 dozen during the last year, and found ready sale for them. There are a few exhibitors of Nails, but none on anything like the scale of Montreal manufacturers. I question much, however, if the articles are not of a superior make. One of these firms is J. Briggs, Gananoque, who has only been established 6 months, and now produces close about 12 tons per week.

The display of wheat in the agricultural department was large, and many of the specimens were fine. There was also a collection of the coarser grains, and a few bags of admirable hops.

We next come to the Agricultural Department, where was exhibited the usual kinds of implements, roots, &c., animals and carriages. Amongst the implements were different kinds of ploughs, subsoil and others, which, by a reference to the prize list, will be found in their respective orders of merit. There was also a very simple and useful stump extractor, consisting of a screw and chain attachable to the stump, and worked by a lever yoked to oxen or horses ; and a post borer, the latter would probably be useful in deep clay lands, but we doubt its working well in stony localities. The exhibition of roots was creditable. The Swedish turnips being particularly fine. There was also a good show of potatoes, one variety of which, the Jenny Lind, producing tubers which weigh as much as three pounds each, and were grown, we understand, about 17 miles north of Kingston. The mangold and carrots were very good, Mr. Logan bearing off the second prize for the latter. The carriages were mostly buggies of the fringe and whalebone order ; there was, however, a neat and strongly built lumber wagon, with spring seat, for general purposes, that looked like business. The cattle were penned in a very commodious building, with a passage way.

down in the centre having stalls on either side. Of this branch of the exhibition we must say, that generally speaking the building was the most creditable part, for with the exception of Mr. Logan's Ayrshires the stock exhibited did not shew signs of very high breeding. We have seen finer animals at many of our district shows in the Lower Province. There was a fair show of Devons. Some good looking black Scotch cattle looked more like beef than the dairy. There were also a few Herefords—a breed that we think not adapted for our light Canadian pastures, whilst as a lot the Durhams were below par. The sheep and pigs were very good, particularly the Leicesters in the former and the Suffolks in the latter. We now come to the horses, and must confess that here Upper Canada bears off the palm. The horses generally in and around the grounds showed a combination of blood and bone that we are unaccustomed to in these parts. We were glad to see some of our Lower Canadian farmers participating in a generous rivalry in this respect.

The display of Ladies' Work in the Crystal Palace was very large. It was in itself in the highest degree creditable. The ladies of Kingston and vicinity are skilful in the use of the needle.

Turning round from the needle work, one directly faced a collection of the maps, sections, plans, watercolour drawings, and photographs, accompanying a report of the Assiniboine and Saskatchewan Exploring Expedition, under the charge of Mr. Henry Youle Hind, M. A., Toronto, in 1859. These were to many the most novel and striking feature of the Exhibition, and one was tempted to linger upon them, to get as near a view and as correct an appreciation as possible of the great and so much talked of North West territory. The maps and sections were replete with highly important information of the most important part of the territory. The Educational Department of Upper Canada made a considerable display of models, busts, plans, scientific apparatus, &c., all of which would be interesting to many without exhibiting anything new. Mr. John Lovell's display of book-binding, was not only in the highest degree creditable to him, but to the whole Province. The specimens shown were neat, substantial, in good taste, and of first class workmanship. His energy deserves success.

The Canada Company's first prize for Wheat was awarded to Thomas Vickers, Township of Clarke. This wheat was of the Soules variety and weighed 66 lbs per bushel. The second prize was given to Trueman McEvers; Township of Hamilton. This wheat was also of the Soules kind, and weighed 65 lbs to the bushel. The third prize—that of the Association—was taken by Isaac H. Anderson, of West Flamboro'. It was of the blue stem variety; weight not given."

THE HORTICULTURAL EXHIBITION.—This Exhibition opened in the Victoria Hall, Hay Market Square. The exterior of which hall was tastefully decorated with a floral crown, and implements of Horticulture and statues, representing husbandry and the peaceful pursuits of the garden. A row of tables extended along the centre of the Hall, which were covered with hot-house and other plants. Tables around the walls of the building were also covered with fruit and flowers, while the platform at the end of the room was occupied with the products of the field, in the shape of celery, turnips, etc. The Hall, during the afternoon, was crowded with visitors, the fair sex predominating; but owing to the coldness of the day, a great many stayed away.

The display of hot-house plants was very fine.

The Hon. J. Ferrier, Mrs. Holland, W. Lunn, and A. M. Delisle, Esq., were the principal exhibitors of hot-house plants.

The first named gentleman exhibited over 60.

Mr. D. Torrance also exhibited a general collection of stone plants, principally varieties of Ferns; he also exhibited a *cissus*, rather small but very handsome, a fine large *Azalea Hovea*, and some *Lycopodiums*.

Captain Ryan and Mr. Richard Spriggins, of this city, and Mr. William Farris, of Sorel, were the principal, if not the only exhibitors of Dahlias.

Some splendid bouquets were exhibited by Mr. Lunn, Mr. Desbarats, and Mrs. Farris of Sorel. The latter also exhibited a handsome wreath and garlands. Her bouquets, two large fan ones, were tastefully decorated with moss, and were the most admired of the lot.

The collection of Apples was also very good, considering the poor harvest to gather this fall. The St. Lawrence and other Canadian stocks appeared to maintain their supremacy, though pushed by the Pippins and other foreign grafts.

Of Pears there was a poor show, not over eight varieties being on exhibition. Peaches, of which there were but few varieties, were very good.

Over thirty varieties of hot-house Grapes were represented. They included the Black Hamburg, Muscat, Alexandria, Constantia, and other varieties of the white and black Grapes.

A plate of Figs of fine size was also exhibited by Mr. John Frothingham.

Of Melons, the nutmegs were pretty fair. The same cannot be said of the Water Melon.

Mr. M. H. Seymour, exhibited some Sweet Corn of very large growth, and also some Lima Beans.

Tomatoes were not very fine, with the exception of one sample which all agreed in calling extra large.

A great competition existed for Celery, as also for Turnips and Carrots. The Celery and Carrots were very good; the same cannot be said of the "Swedes."

Two Pumpkins of very large dimensions were also on exhibition: one weighed 185, the other 165 pounds.

A fine collection of German greens, otherwise Kale, was also on the platform amongst other vegetables.

Quite a number of Fowls were exhibited: they included the Polish, Spanish and Bantam breeds.

Three game cocks, with spurs grafted upon the foreheads, were amongst the collection, and attracted considerable attention. If this grafting is intended as an experiment, it appears likely to succeed, as the spurs clipped from the heels of the fowl seemed to grow quite naturally from their heads.

Prince's City Brass Band was in attendance during the afternoon, and seemed to please all with their melodious selections.

THE MISSISQUOI SHOW.

Stanbridge, Sept. 14th 1859.

The Annual Fair and Cattle Show of the Missisquoi County Agricultural Society, took place here and was well attended.

The office Bearers of the Society deserve the highest praise for their spirited exertions in providing such excellent accomodation, in spite of a curtailment of the Government Grant for the year of about 40 per cent. They were not contented with spending time in superintending and aiding the necessary erection

but actually made outlays beyond the Grant out of their own pockets for the credit of their locality. Their names were Hon. P. H. Moore, President; Asa Westower, Esq., Vice-President; H. O. Meighs, Secretary-Treasurer; with the following directors: A. Teneyck, N. M. Blain, Peter Smith, John Hunter, Pileg Spencer, George Truax, and P. P. Derrick, Esq.

The President delivered an opening address which we append. The Durham Cattle shown by Messrs S. & C. S. Baker were admirable. Mr. D. Westower and the Hon. P. H. Moore showed and were successful in their class. Dr. Brigham of Philipsburg's *Bob Logic* a four year old colt of the "Black Hawk" and "Lady Vave" breed, is thorough bred, with beautiful action. *Wild Mexican*, belonging to Mr. James Ruiter, a magnificent and powerful black stallion took a first prize, and many other animals were shown, we would commend did our space permit of it. The Oxen, Swine and Sheep were of excellent quality. The Industrial department boasted of some good specimens; and, as a whole, the show was highly creditable to the old County of Missisquoi.

THE PRESIDENT'S ADDRESS.—The Hon. P. H. Moore, the President of the Society, delivered an opening address on the first day on the Exhibition grounds. He spoke to this purport:—

Commencing by addressing himself to the ladies, he said he was glad to notice the presence of so many of them on the exhibition grounds. Their countenance and support always lent stimulus and encouragement to such efforts as those of the officers of the Society; also to the exhibition itself. He regretted that he had had so little time to prepare an address, and that the task had not fallen to the lot of some one better qualified. It could not, however, have fallen to one who possessed a more sincere desire to see the agricultural resources of the county promoted and encouraged. He regarded agriculture as the basis on which mainly rested the trade, the manufacturing interests of the country. And he considered agricultural associations to be one of the best means, when maintained and carried on in the right spirit, to promote the agricultural interest. They excited a spirit of emulation among farmers, as well in the cultivation of their farms as in the rearing of live stock. They also served to bring the agricultural community together, and to concentrate its influence on all questions, in which its interests were involved. Agriculture was now admitted to be a science, and it ought to take rank among the learned professions. When it did take the proper rank as such, thousands of young men, who now crowded all the professions and filled up all the avenues of trade, would cease so to waste their energies, and turn their time and attention to it. It was more useful, and ought to be considered equally honorable. In support of this position he quoted a passage from Mr. Hutton. The hon. gentleman here dilated at some length on the varied beauties of nature, which the farmer necessarily met with in the pursuit of his avocation, and inculcated faith in Providence, saying that, Paul may plant and Appollos water, it is God alone that gives the increase. He further contended that a farmer's life was conducive to morality among the population. This was proved by the fact that farmers had little to do with jails and law courts. From these general remarks he would turn to the particular cultivation of the soil in the Eastern Townships. He approached this subject with great diffidence in the presence of so many practical and highly intelligent farmers, so much more qualified than he to impart instruction. He might, however, remark that two objects must be kept steadily in view—the adaptation of crops or products to climate—and their suitableness for the markets. He spoke

on these points at some length. He particularly urged the desirability of the application of the principles of Agricultural chemistry in the proper rotation of crops - in seeing that the ground was not too much exhausted by taking from it year after year particular kinds of properties, by growing the same crops. He urged the importance of underdraining. He did not insist on any particular kind. He said that in Europe, where labor is cheap, tile draining costs about \$30 an acre, but he did not think it could be generally carried out in the Townships where land was cheap and labor was dear. Still he insisted that all lands thoroughly cultivated ought to be under-drained. He would have every intelligent farmer to adopt his own method, provided he did the draining. He said wheat might be cultivated in great perfection in Missisquoi and the Eastern Townships, but these were better adapted for grazing and the raising of the coarser grains, both of which, in their particular position, were more profitable. He did not think they could be surpassed in their Indian corn, oats, barley, and potatoes; but their principal source of wealth lay in the products of the dairy, in cattle, and horses. He made a running comparison between wheat growing in Upper Canada and grazing in the Townships. The latter he considered greatly preferable, as being more steadily profitable, and less liable to those fluctuations which periodically caused such great disasters. Certainly the Townships under their system for the last ten or twelve years, had been highly prosperous and were steadily increasing in wealth. He remarked on the great importance of the Reciprocity Treaty to the Townships, and of the railways across the frontier, in providing them with a market for their products, and so increasing the price of these and of the lands. They had the benefit of the American railways without being called upon to pay for the cost of their construction. The judicature act was of great advantage to the Townships. It brought them Courts of justice to their own doors, instead of forcing them to go to Montreal. Missisquoi contained the chef-lieu of the District of Bedford. He next touched upon the manufactures exhibited, and expressed himself a strong advocate of protection. This, he argued, was highly important for the prosperity of the country, and providing a home market for agricultural produce. He had always been an advocate for protection in the Legislature, and its principle, he was happy to say, had been, to a certain extent, carried out in the tariff of last session. Some of the manufactures on the ground showed great skill. He particularly urged the preservation of trees as much as possible. In the words of the poet he would say, "Woodman, spare that tree." In the westerly parts of the county, wood was now getting scarce and dear for fuel. He urged the importance of planting maple trees, so beautiful for ornament, so valuable for timber and fuel, also for sugar, as the admirable specimens on the ground fully attested. He hoped the many manufacturing advantages which the Townships offered would more and more attract capitalists to settle in them, and he concluded by a brief sketch of the old county of Missisquoi. It was first settled by the U. S. Loyalists, in 1785, near Missisquoi Bay, at the close of the American Revolution. These were afterwards followed by immigrants from the New England States and New York, who formed settlements further east, and finally spread over the whole county. Thus the early settlers of Missisquoi were men who preferred British rule, laws and institutions, to the comforts of their homes in the revolted provinces. They were a class of men, who, for urbanity of manners, high purpose, and the spirit of enterprise, could not be surpassed. They thus had pride in their fathers and their history. Might their own memory be so respected by their sons when they had passed away! He believed, from his observations, that there is no part of United Canada, or the American Continent, that could surpass old Missisquoi or its people in integrity or wealth. With the blessing of Heaven, their destiny was onwards, if they proved true to themselves.

NIAGARA ELECTORAL DIVISION AGRICULTURAL FAIR.

The Agricultural Fair of the Niagara Electoral Division came off at Niagara on Tuesday last, and although the weather was unpropitious, the show was most satisfactory in all the departments of industry, and is spoken of in glowing terms by the *Niagara Mail*. It says:—The garden and field vegetables we think could not be beaten anywhere—such magnificent peaches, apples, pears, grapes, quinces, &c., as were exhibited in profusion yesterday, we would back against the Provincial Show, where we hope the best specimens will be sent. Then the vegetables—such monstrous squashes, turnips, of which Mr. P. C. Servos had a fine show of eight varieties, carrots, cabbages, cauliflowers, beets, melons, potatoes &c., really made a perfect picture of fertility and abundance. The ladies department was very gay with specimens of needlework, drawing, &c. We also noticed a cage containing a lot of very fine ferrets, a most useful little animal for the destruction of rats, which were shown by Mr. Pafford, and as such very properly exhibited at an agricultural fair. There was also some fine home made wines—white and red—shown by Mr. Varey, and two bundles of hemp shown by Messrs. Ball and Nash, who deserve great credit for entreprize in introducing these articles into the township. Some very fine samples of tobacco in leaf and manufactured were shown by Mr. Varey and Mr. Young, giving one more proof of the claim of Niagara Township to be the garden of Upper Canada. The show of butter was very large and good, and some excellent cheese was exhibited by Mr. McCarthy.

MANURES NATURAL AND ARTIFICIAL.

Their composition—modes of operation and comparative values, with incidental remarks as to the necessity for sanitary provisions,—with analysis, &c.

[CONTINUED.]

But for easy transportation, condensation would be valuable. For this purpose various contrivances have been employed; in Belgium, for instance, sawdust, and sand as simple absorbents—Ground Gypsum, valuable in itself, as a deodoriser; Powdered Charcoal, Refuse Bone Black of Sugar Refuseries; Half charred peat, and even peat mould and burnt clay have been used. Quick lime immediately liberates the ammonia and causes a loss. Green copperas, or sulphate of Iron, fixes the volatile ammonia; but we would not recommend it, as immediately combining with the phosphoric acid, one of the most valuable elements, it forms an insoluble salt of iron. Now most soils contain in abundance the iron that is requisite for the support of a healthy vegetation of any descrip-

tion. Bone and corn cob charcoal, on account of its porosity, is of great value for this purpose, especially as an absorbent when buried in the soil to serve in retaining any excess of ammonia. Muriatic acid is one of the most economical, powerful and effective of deodorisers, instantly depriving the most offensive substances of any appreciable unpleasant exhalation, and at sametime, uniting with ammonia, forming a most fertilizing salt. We would also recommend a solution of Zinc and chloride of calcium. In England, near London especially, and in Belgium it is simply diluted with water and spread on the ground, when the ammonia is immediately, to a large extent, absorbed by the earth, for which, it has a powerful affinity. In Scotland, from Edinburgh City, it is carried in a stream without the City, and is distributed in small diverging channels over the meadows from which they gather repeated cuttings, during the season, of the richest grasses. In China generally, in Paris, Vienna, Frankfort, and elsewhere, they manufacture it into a dry and portable "*poudrette*," but in drying a great portion of the valuable volatile constituents, are dissipated and lost. It is worthy of especial remark, that the sulphuretted Hydrogen which escapes so plentifully in most modes of preparing these substances is a deadly poison to man and animals, and, in a more highly concentrated form, even to vegetables, being inhaled by their leaves, which serve as their respiratory organs.

We have dwelt on this subject, and shall persist in doing so for a few pages, believing that it may possibly in some degree tend to promote the sanitary movement in certain quarters, when we point out the practical means of at once profitably ridding ourselves of the proximity of noxious and putrifying animal and vegetable compounds—polluting our atmosphere in the neighbourhood of a dense population, and at the sametime providing the means of promoting the fertility of the soil, and supplementing prodigiously our agricultural Resources.

We shall venture to pause a little longer, in contemplation of the sanitary movement in this city which is about to be initiated, and we trust persevered in until the desired results shall have been attained; and we feel assured we will be excused for adventuring the following remarks, which, though necessarily, general in this place, yet we shall take care they shall be truthful and brief, and we hope, in some sense, to the purpose.

Regardless of the beautiful and purifying economy of nature, which has decreed that what is buried in corruption, shall be raised again in incorruption—that substances which shock our common humanity shall be deposited in the ground speedily to reappear in every form of vegetative loveliness;—regardless of the beautiful transformations which are constantly taking place in the world around them, they are contented to live on in ignorant and inobserving indifference, guided by their unworthy prejudices, instead of endeavouring to benefit themselves and their followers by providing for the removal from populous cities and towns of those putrifying deposits wherever found, the fruitful generators of malaria, pestilence and death—frequently, serving as the scarce perceptible origin of so many woes; but though the agency of disease, excepting as respects its effects, may be scarcely appreciable, the origin of that agency is generally susceptible of detection, and, if so, almost universally of correction.

The air we breathe must be pure. If contaminated by the effluvia from the decomposition either of animal or vegetable matter, instead of purifying the blood and invigorating the frame, it must tend rather to produce, whether rapid or slow, a progressive deterioration and corruption of the whole mass of the blood, — a prevailing disorganisation of the solid structures, and determine in generating fevers, and the other cognate morbid conditions of the human frame. Is it not equally necessary then to give as much practical attention to this essential element of vitality we inhale, as to the necessary surplus of food and drink we appropriate to our individual use ; but disregarding that conservative instinct of our nature, which warns us of the proximity of an enemy, we heedlessly inhale the putrifying gasses pregnant with disease and death, though we would not fail to turn with loathing and disgust from food and drink of unpleasant odour and taste, and should at once reject it. Despising the admonition of our senses, we persist in breathing a pestilential atmosphere—though we may be inhaling in successive inspirations, gasses pregnant with corruption and death. How frequently might the neglected substances seething in putrefaction, be converted into sources of wholesome nutriment—supplementing the agricultural resources of the country, instead of scattering around those baleful influences which prove too often but the heralds of wide spread disease and mortality.

No doubt malaria is sometimes distributed through the agency of those unappreciable influences arising from the vicinity of marshes, rivers, and other waters with overflowed banks ; where, though the influences be of the most deadly character, arising from the decomposition of vegetable substances, the air in the neighbourhood may be breathed without in the least offending the senses ; yet ague and fever, bilious fever, and congestive bilious fever, hang around, originating in the insidious poison diffused throughout the humid atmosphere of the locality, which latter condition would appear to be conducive, if not necessary, to its dissemination.

But malaria is frequently caused in large cities and towns, and elsewhere, by the noxious, offensive effluvia and too perceptible for comfort, proceeding from decaying substances, such as the depositaries of human excrement, and other receptacles of putrifying matter in the neighbourhood of human dwellings,—and, unlike the diseases arising from common malaria, the affections thencefrom proceeding become not only mortal, but in turn self-propagative, endemic, and perpetual. Surely in this latter case, there can be no excuse for withholding our vigilance in removing everything offensive from the neighbourhood of the habitations of man—stimulated by every consideration of health, comfort, delicacy and economy. Is it necessary that a country should recklessly expend large sums in the purchase of foreign manures, with such rich deposits of fructification expending their influences in polluting the atmosphere we inhale in every breath, when they ought to be profitably and healthfully employed in supplementing the agricultural resources of our common country ?

To the removal of refuse animal matter and refuse organic matter of all kinds, we must look for protection from nuisances and disease,—the removal not by deposition and filtration into the earth, nor by exhalation of its volatile

particles into the surrounding air, by means of exposure to the sun,—nor by permitting the mass to flow easily along in disgusting sewers and gutters, finally pouring into, and corrupting adjacent waters, which, if preserved pure, would otherwise, aid in enhancing the health and beauty, and facilitate the commerce of a mighty city. We should look to this in time before we realize the current of the polluted Thames at our own doors—the turbid filth of the stream moving sluggishly along towards the sea, and again thrown backward by the resisting tides, until now its accumulation shocks every sense, and its stench has become unendurable,—driving the very senators of the country out of their new houses of Parliament, built inconsiderately in its too close neighbourhood. We intend in a future number of the Journal to enlarge on sewerage draining and irrigation. And we reserve our farther remarks for that article.

But we desiderate a large supply of manures from whatever available source derived,—in the highest possible state of concentration. This insures their cheap and easy transport, which, next to individual efficiency, is the most important recommendation.

We shall next proceed to give an analysis of several fertilizing substances, showing their constituent elements, and comparative values as fertilizers.

Peruvian Guano.

Water	13,73
Organic matter and ammoniacal salts.....	33,16
Phosphates	23,48
Alkaline salts	7,97
Sand	1,66
	100,000

Professor Way, of the Royal Agricultural Society of England, has decided the value of ammonia to be 6d sterling or 12½ cents per pound, and of the phosphates 3 farthings, or 1½ cents per pound; or \$54,00 per ton of 2,000 pounds.

The following remarks of our friend Mr. Gray of Dilston at the Liverpool and Manchester Agricultural Society are practical and apply in part to the future of Lower-Canada, so far as stock is concerned :

At the dinner, Mr. John Grey, of Dilston, said the Judges had done what they thought best; but their duty on such an occasion was not an easy one, when the competition between animals was so close that the decision depended upon the very shade of an opinion. Some questions might be reduced to the statement of a mathematical proposition, but an excellent property in an animal could not be stated so easily, and required a great deal of explanation, and a delivery on such a subject demanded maturity of judgment and long experience. It was not a difficult thing for a man with a correct eye to tell the best form, and to see that within certain straight lines there was a greater content of meat; but a man required by putting his finger on an animal to tell the quality of the beef or mutton, and whether it was of that kind which could quickly bring the

animal to maturity with economy of food to the farmer, to whom it made a material difference whether an animal arrived at maturity in eighteen months or two years. He thanked them for the pleasure of seeing this glorious exhibition with so many animals in such a state of perfection. True, their description of breeding and feeding might not suit every farmer; but yet each was indebted to those who improved their own stock, for it was that which the British farmer was peculiarly called upon to look after. In order to profitable breeding, it was necessary to secure the best description of animals, which, by coming to early maturity, would produce the greatest remunerative return, and to combine with this care that good cultivation which would produce all the year round a succulent, nutritious food to bring them to perfection. Butcher's meat and wool were the most remunerative portion of the British farmer's produce. We were brought into competition with many countries in the production of grain; many, from their soil and climate, were better calculated to mature it than was ours; but there was no country in the world better calculated than ours to produce butcher's meat; and it was a happy thing that our operatives were now fed on that substantial food, beef and mutton. Long might they enjoy it. It used to be the case that butcher's meat once or twice a-week was a great treat. If it was the most remunerative produce in the country, it was the duty of farmers individually and nationally to do their utmost to feed and maintain the increasing population of this country upon its produce. He had observed that a description of stock considered to be most remunerative in other countries was little cultivated in this; he meant sheep, which gave not only grease, but wool, and wool sold and would continue to sell at a remunerative price. But sheep would not thrive upon rushes, nor were they partial to damp beds; but they required that land should be drained. In his progress here he saw flocks in fields luxuriant in rushes. He knew well that those farms commanding the greatest advance in rent were well stocked with sheep. Whilst we had to compete with many countries in the production of wheat, which could be carried by steam anywhere, there was no country which could compete with us in our oxen and sheep, and it was these he would recommend to the amateur or gentleman, but to the rent-paying farmer, who kept his land to pay his rent and support a family: to that man would he recommend to attend to the growth of his roots and the description of stock he kept. By improving his cultivation he would improve his stock and increase the amount turned over year by year: so that the sooner stock arrived at maturity the better would it be for the country and for the farmer's pocket.

PARIS CORN TRADE.

Now that the harvest has been generally gathered in, a more accurate opinion may be formed of the produce of the wheat crop. In the neighbourhood of Paris, where this is greater than in almost any other locality, it will require 10 per cent. more wheat to be ground in order to produce the same quantity of flour as last year. In Normandy, where the wheat was laid flat previous to the great heat of July, it will require 15 per cent. more wheat. Similar complaints are heard in the departments of the east and west. Taking into account the deficiency in the produce, and the inferiority of the quality of the wheat crop of this year in France, it may be safely asserted that it is 20 per cent, or one-fifth less productive than that of last year. This fact will account for the little activity farmers in general display in bringing their corn to market. It is added

that the stock of old wheat on hand is less considerable than was supposed. It is calculated that no more old wheat will be offered for sale in the markets of Normandy after the month of October. These causes, some local and others general, explain naturally the rise in wheat and flour which took place in the Paris market last week. The Price of corn, however, is still low in most of the markets of Europe, so that consumers have no need to alarm themselves. Flour of superior quality is quoted in Paris at 53 francs the sack of 157 kilogrammes, and inferior from 47 to 52 francs. Flour of the four marks has likewise risen. There are buyers 52 francs for the present month, 53 francs for October, and 54 francs for the last two months of the year. The factors declared on Friday 3,635 sacks of flour, first quality, sold for delivery within thirty days, at prices varying from 44 to 52 francs, and 3,359 sacks to bakers. Wheat rose last week in almost all the markets in France. On Wednesday the supply in the Paris market was small, and a rise took place of 1 franc the sack of 120 kilogrammes on choice samples, and 75 cents on ordinary quality. Old Wheat was bought readily by the millers at from 27 francs to 27 fr. 50 c. the sack of 120 kilogrammes. New wheat, 25 fr. 50 c. to 26 fr. There are great complaints made by the farmers of Ardennes of the quality of the new wheat and of the deficiency in the weight. There is very little brought to market, and it is expected that a serious rise will take place after the old wheat is exhausted. Oats were less offered in the Paris market last week. Old oats have completely disappeared. Choice samples of black oats are sold in small lots to seedsmen at from 26 fr. 50 c. to 27 fr. the sack of 150 kilos.; oats from the Beauce and Brie of good quality at 25 fr. and 25 fr. 50 c.; and ordinary from 23 fr. 50 c. to 24. Although the oat harvest has been in general abundant, it is not expected that prices will be lower. Rye is in good demand in the Paris market for the north. Buyers were to be found on Wednesday at 17 fr. 25 c. the sack of 115 kilos.—Barley is in demand for distillers' use, although the quality is not so good as might be wished for. It is firm at 17 fr. 50 c. the 100 kilos.

UNFOUNDED REPORTS ABOUT THE POTATO CROP.

An attempt is at present being made in a certain influential quarter to frighten us into the belief that the potato crop of the present year all over Ireland is a dead failure—that the blight of 1846 has swooped over the land, and that thereby the food of our population is destroyed. If this were true, the announcement would be painful enough. If it were even probable, there would be a melancholy story to tell. But, when there is not one word of truth in the whole matter, what remains for us to say about the originator of the report? It is too soon to report definitely upon the returns of the Irish harvest as to any of the crops of cereal or other descriptions of produce. This much, however, is certain—that never, since 47, the year of the disastrous potato blight, has there been a potato harvest in Ireland so abundant in quantity and so pure in quality as in the present year.—*Ulster Banner*.

[It is cheering, amidst all the alarming reports that we see from day to day of the total failure of the potato crop, to find the above state of things in the north of Ireland, and we can to some extent corroborate the *Banner of Ulster* in saying, we think a large amount of exaggeration has been dealt in, for as far as we have inspected the state of the crop in this province, and from all the information we have been able to collect, the blight is still but partial; and from the immense quantity planted a large margin can be spared without inflicting much mischief.—*Southern Reporter*.]

In Lower-Canada we have to report that the potato crop is now showing alarming symptoms of prevailing disease. We have no doubt that this great misfortune, will, at no distant period, materially influence the price of agricultural produce of several kinds. We also fear that the accounts in the *Ulster Banner* are much too flattering—and that to some extent, the wish has been father to the thought.

J. A.

GRAZING SHEEP.

Sheep, in order to thrive on grass, require a short, sweet, and nutritious herbage; and to this end clover is especially adapted for them. Less attention is paid to the special wants of each kind of stock, as regards the preparation of pasture lands for them here than in England. Our grasses are coarser, and grow more rapidly than there; and every farmer here keeps a variety of stock, and herds them together too much. Sheep do well in a pasture after other stock have eaten away the first coarse growth, provided the after-growth has well started, and no greater number are kept on the pasture than is consistent with keeping the grass up to a certain point—say so high as to hide the feet from view when standing in the field. Breeding ewes with lambs at their sides require such pasture as will enable them to give a steady and uninterrupted flow of milk, up to the time of weaning. Lambs are usually weaned during the month of August, and at this time the ewes may be turned into a bare pasture or stubble for a few weeks, till their milk dries up; after which, they should be brought into good condition again before the time of putting the rams with them. Lambs, when separated from the ewes at weaning time, are usually placed in a field of young clover by themselves, where the grass is rich and succulent. In England they are allowed a small portion of oil cake daily, in addition to the pasture. Rams require to be separated from the ewes before weaning time, and should be got into as high condition as possible, without making them too fat and indolent by the time they are to be again placed in their company. Great attention is necessary in selecting good-sized, well-shaped; thrifty animals to breed from; and on no account should a badly shaped or unthrifty animal be retained, merely because it possesses good blood or came from a good stock. Like breeds like, and defects are much easier to propagate and inherit than excellencies. Every exceptionable animal should be condemned to the knife of the butcher without mercy.

A REMARKABLE SOLVENT.

It is now discovered, it appears, that if a piece of copper be dissolved in ammonia, a solvent will be obtained, not only for lignine, the most important principle of all woody fibre, such as cotton, flax, paper, &c., but also for substances derived from the animal kingdom, such as wool and silk. By the solution of any one of these, an excellent cement and water-proofer is said to be formed; and what is equally important, if cotton fabrics be saturated with the solution of wool, they will be enabled to take dyes, such as the lac dye and cochineal, hitherto suited to woolen goods only. Hydriodide of ammonia, we may also observe, was not long since discovered to be an equally remarkable solvent, or, at least, insoluble, mineral substances. Now it is an interesting circumstance that

ammonia, according to Von Helmont and other old chemists and alchemists, was one of the requisite materials in the formation of the "alkakest." or "universal solvent" of the ancient sages! In the cupride of ammonium (if we may so call the solvent here first spoken of) we seem to have the solvent of silk which we have lately desiderated in our remarks on the insulation of submarine telegraph wires.—*London Builder*.

FARM DRAINAGE.—We remember standing, thirty years ago, upon the cupola of a court-house in New Jersey, and, while enjoying the whole panorama, being particularly impressed with the superior fertility and luxuriance of one farm on the outskirts of the town. We recollect further that, on inquiry, we found this farm to belong to a Judge of the Court of Common Pleas, who also exercised the trade of a potter, and underdrained his land with tile-drains. His neighbors attributed the improvement in his farm to manure and tillage, and thought his attempts to introduce tile drains into use arose chiefly from his desire to have a market for his tiles. Thirty years have made a great change and a New Hampshire Judge of the Court of Common Pleas gives us a book on 'Farm-Drainage' which tells us that in England twenty millions of dollars have been loaned by the government to be used in underdraining with tile!—*Atlantic Monthly*.

ROTATION OF CROPS AND DRAINAGE.

The time is near at hand when farmers will begin to prepare their land for fall wheat, and it therefore becomes our duty to warn them of the consequences which must result from our producing this description of grain. Better by far is it to introduce a system of rotation on their farms, and raise good crops of the different varieties of grain and roots, than hazard the whole of their yearly dependence on one single and precarious article. Take the experience of those countries where farming by rental is engaged in so profitably, and it will be found that the chief cause of their success is the improved system of culture and rotation which has been adopted and followed by the enterprising agriculturist. To carry through this system in perfection, it is desirable to keep and raise a certain amount of stock, either for dairy purposes or feeding for sale; and no better time than this can be got for purchasing, prices of all kinds being at a moderate figure. Another important and primary requisite in the successful raising of all descriptions of crops, is the thorough drainage of the land. Common sense would teach us that it is a perfect absurdity to attempt to grow grain on wet or damp soil; yet such an unnatural system is constantly persevered in, and the weather and attending evils resulting therefrom are blamed for the failure. We need only refer to the excellent management of Mr. Leonard Wigle, of Mersea, for an example of the beneficial results of proper drainage. He assured us that the expenses incurred will nearly be saved the first year by the increase of production, and a greater certainty must be entertained in raising good crops in the future. We trust that notwithstanding the unusual abundant harvest with which we have been favoured, farmers will not lack in bestowing all those appliances of labour and skill in the management of their land, which their means will allow. Let them but study for a moment, that it is better to till a small piece of land, and raise a good average crop, than cultivate a large quantity badly with a poor return. The property and progress of the country is entirely in their hands, and we doubt not they will exercise their ability and judgment in working out judiciously their own and country's welfare.—*Sandwich Maple Leaf*.

AMERICAN NEWS.—Apples. Everywhere a failure. The apple disease is as fatal and wide spread as the potato disease in its fullest vigor. Everywhere trees are dying—the leaves turn yellow, the twigs dry up, the fruit drops off, or, if it hangs on till mature, it is gnarly, and only half size, very often wormy. Fine apples, of full sizes, smooth skins, and good flavor, are the exception, not the rule, in all the region that sends fruit to this city. What is to be done for apples? No one can tell. But none must be wasted. Every one who has them must save them. If too far off to send them to this or some other high market in their natural condition, dry them. You will then find no trouble in selling them at a higher price than you can get if converted into cider. Pare, core, and dry carefully, either in drying-rooms, kilns, or in the sun, on strings or upon sheets or boards or stone or brick, keeping them clean and free from wet. Then pack them in barrels or bags holding a barrel and not more, and they will command a good price. All will be wanted, not only here in seaboard cities, but in the new West—Kansas, Iowa, Minnesota, Wisconsin. All new States and new settlements want dried apples. What tuns of them would sell at Pike's Peak! East, West, North, and South, are wide districts insufficiently supplied with apples, which will furnish a good market for all that will grow in a few favoured regions, where there will be a surplus.—*New York Tribune.*

THE COMMERCIAL POSITION AND PROSPECTS.

The country is not yet out of debt. The effects of the speculative mania which led to the collapse of 1857 are not yet over. The rashness of those times left a burden of debt which has not yet been got rid of. There has been comparatively little liquidation. Embarrassed debtors and disappointed creditors have not generally agreed to square accounts, make the best of a bad case, and start fair again. In fact there has been no crisis, properly speaking; for a sort of universal timidity prevented matters being brought to a crisis, in 1857. In the place of it—when there was a crisis in nearly all the great commercial cities of the world—commercial affairs here never got beyond embarrassment; and it was precisely because they did not reach a crisis that the embarrassment became chronic. The short harvest of 1858 favored the continuance of this state of things; and there was no possibility of improvement till another and better harvest had been reaped.

That event has happened; and as the tide of commercial affairs has taken a turn; as the means of payment have vastly increased; as importation is expanding and the revenue increasing, it may not be amiss to take a glance at the actual position of things, and the prospect before us. And first, let us look to our currency. In those States of the American Union, of which the position is analogous to Canada West—of which the people depend almost exclusively upon agriculture—the currency by which transactions are chiefly set in motion is a very uncertain measure of value. Illinois bank paper, for example, will not always purchase exchange, at Chicago, on the Eastern Cities. The bill-holders may be tolerably secure but there is not sufficient specie in the vaults of the banks to justify the idea of their immediate convertibility; and the result is that this paper but ill supplies the purposes of a currency. Whatever improvement our banking system may be susceptible of—and few would think of claiming that it is perfect—our currency answers all the purposes for which it is required. And if we look at the comparative state of our chartered banks during the last year, a very great improvement is discovered. Their condition in August, 1859, was

compared with what it was in the same month of the previous year is, every thing been taken into account, over \$5,000,000 better. In the first place, there is a decrease of \$813,358 in the circulation, and the obligations of the banks are, in that respect, diminished to a like extent. While this contraction of issues has been effected, there has been an increase of specie to the amount of \$96,249, and in the deposits to the enormous extent of \$4,279,249. With an expansion of \$3,000,000, at least, the banks would be in as good a condition as they were a year ago. In this statement, the Bank of British North America and the International Bank are not included; as the returns necessary to make the comparison have not been published.

The increased value of the harvest of 1859 over that of the harvest of 1858, has been estimated at \$10,000,000. The data on which this estimate was based may not claim to be absolutely infallible; but no attempt has been made to prove it fallacious. The great difference in the produce of the two harvests is obvious to the commonest apprehension; and though no individual can aggregate it with unimpeachable precision, nobody can doubt the abundance of this year's harvest. Another favorable circumstance is the good prices which are obtainable for produce. Wheat oscillates in the neighborhood of Mr. WELLES' model price—\$1 a bushel—going about as often above as below. The high prices which ruled during the Crimean war, though good in themselves to the producer, became in their results, even to him, seriously disastrous. To these extravagant prices is attributable a large amount of the speculation that took place; to them nine-tenths of the farmers who are embarrassed owe their embarrassments. If wheat had never risen above its present price, only a small portion of the debt which now exists would have been incurred. It certainly does not follow that high prices are not good for the farmer; but, all things considered, he has no reason to be dissatisfied with ruling rates.

An addition of \$10,000,000 to the value of the harvest, as compared with that of last year, will suffice to wipe off a large amount of debt. And then it must be remembered that not every farmer is in debt; still less is the number whose debts exceed their means of payment. Some there are in both positions; but there are plenty of others who will have, in the proceeds of the harvest, a handsome surplus with which to make improvements. The present year will witness a good deal of liquidation, and indeed the commencement of a new speculative era. When there is a prosperity, there is always speculation. Commercial events move in cycles. Prosperity brings speculation, over-trading, unjustifiable expansion of credit; and these produce a collapse, in their own proper time. Upper Canada has recently had a lesson; and a tolerably severe one it has proved; but let nobody suppose that the stock of wisdom it has thus purchased will last for ever. He who reasons from such an hypothesis will find himself mistaken. Mankind are the same as ever; and the punishment of past follies, will not serve to prevent the indulgence in new or even similar follies. It is a question of time and means.

AGRICULTURAL REPORT.

The grain crops are now pretty generally secured, except in some of the high-lying districts, and even there the oats are all cut, and only await a few dry days to have them stacked. This is a cause of congratulation; for, notwithstanding the earliness of the harvest, the weather has of late been very unfavourable. Thursday night and Friday morning, the 8th and 9th instant, were little short of a hurricane, and the loss from shake in the uncut grain must have been favourable for getting in the crop, the cutting down has been proceeded with. We do not see any use in concealing the fact of a deficient harvest in the north of

Ireland. Our own experience, and that of others on whom reliance can be placed, indicates the produce of oats at about two-thirds of an average. If it does not fall below that, it will certainly not exceed it. Wheat is not quite so unproductive; it may, perhaps, reach a low average, but the quantity of wheat compared with oats is inconsiderable. Farmers are now contrasting the number of their stack-yards, and looking forward with dismay as to how they are to be fed in the winter. However, there is one redeeming feature in the season just now. The late rains have greatly benefitted the turnip crops, and, if the autumn should continue mild and open, late as this crop was, it may not be so very defective as was at one time expected. Potatoes, for so far, are comparatively free from the disease of former years, but the dry summer did not mature a crop at all of the same abundant kind as we sometimes have. Still, the soundness will apparently make up for the deficiency.—*Derry Journal*

NOTE ON CONCENTRATED CATTLE-FOOD.

I had prepared some months since a short notice regarding the nature of some of the substances now so extensively advertised as food for cattle, which circumstances prevented appearing at the time it was written. Since then Mr. Lawes has published, in the *Journal of the Royal Agricultural Society of England*, a paper on the same subject, in which he expresses opinions completely concordant with my own, and has rendered my observations unnecessary. But as there are probably many readers of the Transactions into whose hands M. Lawes's paper may not fall, it may be of some use to put on record two analysis of such foods, merely for the sake of showing how little they merit the encomiums bestowed on them, or the price at which they are advertised.

	I.	II.
Water	14.38	12.65
Oil.....	7.05	4.00
Albuminous compounds.....	10.00	7.94
Gum, sugar, &c.....	54.37	} 69.81
Fibre.....	7.61	
Ash.....	6.59	5.60
	<hr/>	<hr/>
	100.00	100.00
Nitrogen.....	1.60	1.27

These substances are made up of a variety of different kinds of ordinary food, among which Indian corn and bean meal appear to be the principal, mixed with a small quantity of aromatic seed (in one case apparently caraway seed), for the purpose of giving the mixture an attractive flavor. The exact nature of the latter substance cannot be determined without a long and elaborate examination, which, under the circumstances, it did not appear necessary to undertake; for the results, so far as they go, are sufficiently conclusive as to the value of the articles. It is obvious that they are cattle-foods of the most ordinary description, of comparatively low value, and not for a moment to be compared with the ordinary cereals, beans, or oil-cake. And yet No. 2. is offered for sale at £12 per ton, being at the rate of 4½d. per lb., when the meat it is to produce is sold for about 6d. The materials of which these foods are made cannot, when reckoned at the highest rates, be worth more than from £7 to £10 per ton; so that the farmer who purchases is made to give an unreasonable and unfair price,

which he ought not to pay, *even if the food fulfilled* the promises of the sellers. That the traffic in these articles must be carried on very extensively cannot be doubted; and it is a matter of the very greatest regret that farmers should give countenance to it by testimonials, of which a long list is to be found appended to the advertisements. So strong is my opinion on this point, that I have absolutely refused to make analyses of these foods for their makers, lest the results should be used in any way to lead farmers into the belief that I am favourable to them.

It is worthy of notice that all foods of this description have a small quantity of an aromatic substance mixed with them, which may serve the part of a condiment, and induce the animals fed upon them to consume a larger quantity of their ordinary food, and, by promoting digestion, cause the animal to fatten more rapidly than it otherwise would. But on this point we have no information; and it would be of interest to have a few experiments made on the effect of such substances mixed in small proportion with the food of animals. But even supposing a favourable result to be obtained from such substances, it would not in any way invalidate the remarks now made, or form an argument for the farmer's paying £40 per ton for what is worth £7 or £8.—*Transactions of Highland and Agricultural Society of Scotland.*

THE GEOLOGIST IN THE FIELD.

Thus equipped, he should carry with him *the best map of the district he can procure*, and if coloured geologically, so much the better. In making his investigations, the student should examine every exposed face or section of rock; and for this purpose seacliffs, sides of ravines, mountain precipices, river channels, road and railway cuttings, quarries, wells, coal-pits, and, in short, every surface-opening should be sought after. As he travels along, he should also learn to note the stones used for road-metal, for field-fences, and other country purposes, and those will often guide him to local quarries which he might otherwise have missed. The ordinary buildings of a district are also in general good indices to its geological formations, though occasionally architectural stones are brought from a great distance, and thus present the geologist with some curious anomalies. The young explorer should also make acquaintance of every stone-breaker, quarryman, miner, and mason he meets with; and though the terms "Metamorphic," "Silurian," "Devonian," and the like, may be as High Dutch to their ears, yet, if conversed with in their own language, many of them will be found to afford important information both as to the nature of the rocks, the stratification, the faults, and other particulars of a district. In fine, the student should let no stone lie unturned to get at the object of his investigation; should visit the local museum, if there is one; find out the names of local collectors, and get access to their cabinets; call at the shop of the working lapidary and dealer in natural curiosities, and it must be a very obscure village, or a very uninteresting locality, geologically speaking, that does not possess some one curious in fossils, minerals, pebbles, shells, insects, or the like, and who knows something, less or more, of the natural history of his district.—*Advanced Text-Book of Geology*, by DAVID PAGE, T. G. S.

A NEW VERMIFUGE.—In Barreswil's "Repertoire de Chimie" appears a report showing that from the analysis made by M. Helet of the *Ailanthus glandulosa* (the Japan varnish tree), the bark and other parts contain an oleo-resin, or mixture of a volatile oil with a fixed one, which is a powerful vermifuge.—*Lancet.*

CUCUMBERS LIKE PRESERVED GINGER.

Divide the cucumbers in halves, lengthwise, and take out the seeds. Soak them for three days in brine; then wash them in cold water, and set them over the fire in plenty of fresh water. As soon as they boil, take them off, drain them, and set them over the fire again in plenty of another water; let them come to the boil a second time, and change the water again; but this time add a small lump, the size of a hazel nut, of bicarbonate of potash. Let them boil for half an hour, and stand all night in the water to cool. Next morning put them on a sieve to drain. Bruise in a mortar half a pound or more of the best and freshest ginger, which put into two quarts of water, with an ounce of cloves and a stick of cinnamon. Set on the fire, and let it boil till the water is thoroughly impregnated with the ginger. Strain the liquor through a jelly-bag, and to every pint put a pound and a quarter of pounded loaf sugar. Clarify this syrup with white of egg; and as soon as it has boiled up and been well skimmed, lay the cucumbers into it, together with all the races of ginger that had been boiled; and after boiling ten minutes, put the whole into a jar, and let it stand two days. Drain off the syrup, boil it up again, and boil the cucumbers and ginger ten minutes. Put all back in the jar; and after standing three days, put the syrup and ginger into the pan again, and boil till the syrup adheres to the spoon. Then put in the cucumbers, let them boil a quarter of an hour, and return the whole to the jar, which must stand uncovered twenty-four hours, and then be covered with bladder and white paper.—*Cottage Gar.*

THE WINDS.

The ancients believed that the winds issued from a cavern at the command of Jove, and they were under the control of four deities, to whom the Phœnicians, Greeks, and others erected temples. We now, however, know that wind is merely air in a state of motion, and that by waving the hand to and fro, or blowing our breath, we may produce wind on a small scale. When the air, at any particular place, is heated by the direct action of the sun's rays or radiation, it rises because of its lightness, and cold air from the surrounding localities rushes in to fill its place. A common door will illustrate this; if we partially open the door of a warm room and hold a light near the top, the flame will be blown outwards by the heated air escaping, and if we hold the light near the bottom, the flame will be blown inwards by the cold air that is rushing in to supply the place of the heated air that has escaped. In particular parts of the tropical regions, where the air becomes highly heated by the sun, there is a constant rushing of air to these points, from east to west, and thus causes the trade winds, so called because taken advantage of by merchantmen on the Atlantic and Pacific Oceans. They blow in the same direction for months together.

This local action of the sun on vast areas of land and water produces several important winds, such as monsoons, which blow from the south to the north, being trade winds turned round by the heat of land lying within the tropics; the simoon is a burning blast that rushes over the Arabian deserts, carrying on its wings fine sand, and destroying all that venture to oppose its power. The harmattan is a cold dry wind frequent in Africa, and is nearly as dangerous as the simoons. The sirocco visits Italy, with a hot, moist and relaxing blast from the African shores of the Mediterranean; and whirlwinds and tornadoes are common to all climates, but most destructive in hot ones.

Notwithstanding the seemingly terrible nature of these winds, they, with milder ones, have important parts to play in the great economy of nature, in dispersing the clouds over the surface of the earth, and purifying the atmosphere from noxious vapors and effluvia; they also disperse the seed of plants, and, as aids of civilization, impel ships across the seas and move machinery.—*Scientific American*,

A STRANGE FREAK IN NATURE.

We had the pleasure the other day of examining minutely a very curious *usus naturæ* in the garden attached to the residence of Mr. Logan, ex-President of the Agricultural Association, on his well-known farm in the vicinity of this city. We found on the same tree the leaves budding out on one branch; the opening blossom on a second; full bloom blossom on a third; the fruit just set on a fourth; an apple about the size of a partridge's egg on a fifth, the last remaining witness of a late, though prior, blossoming; and high seated above all, on one of the topmost branches, a healthy full-sized apple of the *true* crop, which appeared and formed at the usual season. Here we have *six* different stages of progress in the same tree or individual, and it is not often we have to note any instance so extremely abnormal. Mr. Logan is of opinion that the extraordinary anomaly arises from the peculiarity of the past season,—from the tree having experienced so many sudden checks, directly influencing the crop in its progress to maturity, from the frequent and extreme variations of temperature to which it has been subjected from early spring to approaching autumn. Mr. Logan also thinks that the frosts of last winter—severe without precedent—had much to do with the abnormal symptoms.

HOW TO GROW LARGE POTATOES.—To improve the size of potatoes, whether planted with small or large, whole, or even cut potatoes, when the plants are only a few inches high, let the shoots be reduced by pulling them up to one, or two, or at most three of the strongest. The tubers will, consequently, be fewer and very much larger, also in measure nearly all fit for market and the table. Every grower will do well to try a few rows by way of experiment, if he disbelieves the truth of this statement.—*Mark-Lane Express*.

THE CHINESE SHEEP,

the only variety to which Mr. Pell gives attention are a curiosity. We believe they are the only ones of the kind in the country. They are prolific beyond all other kinds—often producing as many as three, four, or five at a time, and bringing forth twice a year! but we confess they are not to our fancy.—The mutton, however, is said to be of a very high character, and wholly devoid of the offensive flavor peculiar to mutton at times.—But we must fail to speak of other varieties of stock, and of other objects in number, which greatly interested us during our short visit. Of other matters we may speak hereafter.—*Mas. Ploughman*.

HOUSEKEEPERS' ITEMS.

TOMATO SOUP.—A. D. Ferrer. Fergus. C. W. writes that a pot of soup even fit for Esq. Bunker, may be made as follows : Take about two dozen ripe red tomatoes, a large teacupful of cream with a good beef bone for a "strengthenener," season with pepper and salt, and boil in sufficient water for two hours.

TOMATOES IN A NEW FASHION.—The following method of preparing them for the table, says the *Harrisburgh Union*, we are assured by one who has made the experiment, is superior to anything yet discovered for the preparation of that excellent article : Take good ripe tomatoes, cut them in slices, and sprinkle over them finely pulverized white sugar : then add claret wine sufficient to cover them. Tomatoes are sometimes prepared in this way with diluted vinegar, but the claret wine imparts to them a richer and more pleasant flavour, more nearly resembling the strawberry than anything else.

TO KEEP PRESERVES.—Apply the white of an egg, with a suitable brush, to a single thickness of white tissue paper, with which cover the jars, overlapping the edges an inch or two. When dry, the whole will become as tight as a drum. To prevent jams, preserves &c, from graining, a teaspoonful of cream of tartar must be added to every gallon of the jam or preserves.

BLACKBERRY SYRUP.—Make a simple syrup of a pound of sugar to each pint of water, boil it until it is rich and thick ; then add to it as many pints of the expressed juice of ripe black berries as there are pounds of sugar ; put half a nutmeg, grated, to each quart of the syrup ; let it boil fifteen to twenty minutes ; then add to it half a gill of fourth proof brandy for each quart of syrup ; set it by to become cool ; then bottle it for use. A tablespoonful for a child or a wineglass for an adult, is a dose.

DOING UP SHIRT BOSOMS.—A correspondent from Glasgow says: "With reference to your method, my wife tells me she has tried it often, and found it very good latterly she uses, instead of gum arabic, a small piece of candle (tallow is better than wax), and finds it infinitely superior. If you think it worth while, perhaps you will give the benefit of her experience to your readers.

A HARD AND DURABLE SOAP.—A patent has been granted in England for an improvement in the manufacture of soap, by the addition of sulphate of lime to the usual ingredients employed in its manufacture. The proportion of the sulphate which it is best to employ vary according to the article manipulated upon, and the quality of the soap to be produced. Thus about twelve ounces of dry sulphate are sufficient for one ton of best soap ; whereas, in common or highly-liquored soap, six or eight pounds may be used with advantage. Soap made with the addition of sulphate of lime, becomes hardened, keeps dry, and is not liable to shrink while in water, Its durability is increased, and it does not wear or waste away before its cleansing properties are brought into action.

THE FARMERS' JOURNAL.
MONTREAL RETAIL MARKET.

November 1859.

	DONS ECOURS.			
	s.	d.	a.	d.
FLOUR.				
Country Flour, per quintal	14	0	a	15 0
Oatmeal, per quintal	10	6	a	11 0
Indian Meal, per quintal	0	0	a	0 0
GRAIN.				
Wheat, per minot	0	0	a	0 0
Oats, per minot	1	10	a	2 0
Barley, per minot	3	3	a	3 6
Pease, per minot	3	6	a	3 9
Buckwheat, per minot	2	9	a	3 0
Indian Corn, yellow	4	0	a	4 3
Rye, per minot	0	0	a	0 0
Flax Seed, per minot	7	0	a	7 3
Timothy, per minot	9	0	a	9 6
FOWLS AND GAME.				
Turkeys, (old) per couple	5	0	a	7 6
Turkeys, (young) per couple	0	0	a	0 0
Geese, (young) per couple	4	0	a	6 0
Ducks, per couple	2	6	a	4 0
Ducks, (wild) per couple	3	0	a	3 6
Fowls, per couple	2	6	a	3 0
Chickens, per couple	0	0	a	0 0
Pigeons, (tame) per couple	1	3	a	2 0
Pigeons, (wild) per dozen	2	6	a	3 0
Partridges, per couple	0	0	a	0 0
Woodcock, per brace	0	0	a	0 0
Hares, per couple	0	0	a	0 0
MEATS.				
Beef, per lb	0	4	a	0 9
Pork, per lb	0	5	a	0 7
Mutton, per quarter	5	0	a	7 0
Lamb, per quarter	2	4	a	0 0
Veal, per quarter	5	0	a	12 3
Beef, per 100 lbs	35	0	a	40 0
Pork, (fresh) per 100 lbs	35	0	a	45 0
DAIRY PRODUCE.				
Butter, (fresh) per lb	1	0	a	1 3
Butter, (salt) per lb	0	9	a	0 10
Cheese, per lb, skim milk	0	0	a	0 0
Cheese, per lb, sweet do	0	0	a	0 0
VEGETABLES.				
Beans, (American,) per minot	0	0	a	0 0
Beans, (Canadian) per minot	7	6	a	10 0
Potatoes, (new) per bag	2	6	a	3 0
Turnips, per bag	0	0	a	0 0
Onions, per bushel	0	0	a	0 0
SUGAR AND HONEY.				
Sugar, Maple, per lb, (new)	0	4½	a	0 5
Maple Syrup per gallon	0	0	a	0 0
MISCELLANEOUS.				
Lard, per lb	0	8	a	0 0
Eggs, per dozen	0	8	a	0 0
Halibut, per lb	0	0	a	0 0
Haddock, per lb	0	3	a	0 0
Apples, per barrel	10	0	a	20 0
Oranges, per box	20	0	a	22 6
Hides, per 100 lbs	0	0	a	0 0
Tallow, per lb	0	4½	a	0 5
BREAD.				
Brown Loaf	0	11	a	0 0
White Loaf	0	9	a	0 0