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No. 10.

MODEL FARMS.

As regards the stock that should be stalled upon a Model Farm, we conceive it would be the best plan to purchase them annually, during the summer and fall, as there would be pasture for them, and sell them off fat, during winter and spring following. In purchasing stock for stall-feeding, it would only be necessary to select those that would be healthy, and likely to fatten rapidly, without regard to any particular breed, except to make experiments to ascertain what description of neat cattle or sheep would become fat in the shortest period, and pay best for the food consumed. There is great judgment required in purchasing and managing stock for stall-feeding, and with however good judgment of stock, there is practical knowledge necessary to insure success. It is by no means easy to find a thoroughly qualified judge of live stock, parties no doubt imagine themselves good judges, but in ninety-nine cases in a hundred it is only

in their own opinion they are so. The practical eye of a good judge of live stock will discover at once a fault or a blemish that hundreds of men who pass for good judges would not notice. There is the same difficulty in being able to appreciate the good points and perfections of animals, it is only a good judge who can do this. In stall-feeding, great attention is necessary to ascertain if the animals are constantly thriving, and taking their regular quantity of food. If an animal do not consume a regular quantity of food there is probably something wrong with it, and it should be attended to at once, and a change made in the food, if it would cause it to feed better. Animals that do not thrive well in stall-feeding, should be disposed of at once, even if at a loss, and replaced by others. The more rapidly animals can be fattened, the more profit they generally make. The number of stock to be fattened, would depend upon the quantity of food raised for that purpose upon the farm.

FLAX.

We are much obliged to William J. Knox, Esq., of Lachine Mills, for the following excellent letter on flax, and we hope he will continue his correspondence on the same subject, as it is one of great importance to Canada, if we act in the matter properly. We conceive that flax can be produced here in great perfection, and provided the land is clean (which would be necessary for any other crop), it is as easy to cultivate and manage as a crop of wheat, and if sold in the field, in stack, will be less troublesome than wheat. As, however, all the produce of the crop is sold off, the land must subsequently be manured in proportion. From our own experience, we do not consider flax a very scourging or severe crop; a heavy crop of wheat or oats, we believe, would impoverish the soil much more than a crop of flax, and the land is left very clean after the latter. We raised excellent flax this year on land ploughed last fall after meadow; the soil a sandy loam of fair quality. In the spring it was well harrowed, and about 15 bushels of wood ashes applied to the acre, with about 2 bushels of salt and 1 cwt. of gypsum, all mixed together. The ridges were about 8 feet wide, and the plough was run in the furrows between, and the loose soil shovelled over the ridges. The land was again harrowed lightly, and the seed sown, and covered with a bush-harrow, and any grass or stones upon the ridges hand-picked. There was a ridge of land upon which potatoes were raised last year, with manure, by the side of that described above, also sown with flax this spring, but without any dressing, and the crop upon this ridge was much inferior to that raised after meadow last year. There is very little doubt if we had parties to purchase flax immediately after it was raised by the farmer, it would be extensively cultivated, and prove a profitable crop for the agriculturist, but until there is a cer-

tainty of a purchaser, the cultivation of flax is not likely to be large. Cleaner and better seed than is to be procured here is another essential requisite for the production of good flax.

Dear Sir,—As you were desirous of hearing what I had learned in Europe, respecting the cultivation and management of flax, I shall give you in a letter the result of my observations:—

Flax seems to be grown chiefly in those countries most resembling the North American Provinces in climate and soil, viz:—the North of Europe, France and Ireland.

Owing to the very flourishing state of the linen manufacture in Ireland, more attention is turned at present towards the cultivation and management of flax in that country than in any other.

It appears that the manufacture of linen is now so extensively carried on in the neighborhood of Belfast, that all the flax that can be procured from foreign countries, is not sufficient to meet the demand; and societies are established, not only by the manufacturers, but by those interested in land, and in short, by all classes of people, for the encouragement of the growth of flax. Both that the industry of that Island may be stimulated by the introduction of flax crops, which will pay better than any grain crop is likely to do at present: and also, that instead of paying foreign nations five millions of money for the supply of flax, that money may be paid to their own farmers, to fructify, as they say in their own country.

Whether this is sound political economy according to the theories of the professors of that science, is a subject I did not hear discussed. They seemed not to have much taste for peering into the mists and obscurities, but to keep their eyes fixed on the glaring truth, that it is better to give five millions to their own farmers than to give the same sum to the farmers of Russia and Flanders. They therefore hold out all inducements to get their own people to cultivate, and have paid agents, who travel through the country and teach the best methods of cultivating and preparing for market.

The first thing to be considered then, is to procure good seed, this they have long been in the habit of importing from Russia and

Holland. In former times a great quantity of American seed was used which was what is grown in the State of New York, and neighboring States, as well as in Canada, in fact the same kind of seed as we now have in this Province; some here, chiefly in the Seignior Country, for the sake of the seed, which is crushed into linseed oil.

This species of flax is hardly ever sown now in Ireland. Although finer than the Dutch or Russian, it does not yield so much weight, being a good deal shorter. It only grows three feet, whilst the other may grow four feet long, making a difference of one fourth in quantity. The European seed is also a surer crop, as the American seed in a dry spring is likely to grow stunted, (technically fired.) However, from what I see and know of the flax crops of Canada, raised from native seed, I think with proper cultivation, our own seed as a general rule might do; but it would be well, should opportunity offer, to introduce both Russian and Dutch, which could be done under the auspices of the Farming Society, and if once imported, the seed could afterwards be saved in the country.

The price of new seed in spring in Ireland is 10s., sterling, per bushel, here I think it would cost 15s., currency, or upwards, while the native seed of Canada is only 6s., currency. It would be therefore a matter for consideration, whether a few hundred bushels of seed would be taken by the farmers at that high price if imported.

Next as to the sowing. The same land that will grow good, strong, red clover, will grow flax; rather dampish, low lying, retentive soil, the deeper ploughed the better, well pulverized, but as early sown as the weather will permit. Ground which has been under fallow or green crop will do. Clean stubble ground if the land be strong enough, will do better. Old, rich lea, after oats, will do better still, but is seldom found in Lower Canada. In all cases to be ploughed deep in the fall, drained as dry as possible, and a light ploughing in spring also. The new chain harrow seems particularly well adapted to the pulverizing of the soil, and covering at a moderate depth such small seed as flax. Two bushels of seed would be the proper quantity for an arpent.

Like any other crop, the cleaner the ground the better, and should weeds arise, they must all be hand pulled clean out of the ground. Weeding is absolutely necessary, and fortunately it does not spoil the plant to tread upon it even when two feet high. The ridges may be broad or narrow, according to the nature of the ground, from six feet to eighteen, and rather flat, so as the crop may ripen evenly.

When the flax is ripe, which is known by the lower leaves withering, and the stem becoming a bright golden yellow, and the seed turning from green to pale brown, then you must pull the crop as quickly as possible. It should be all pulled in three days, place the handfuls upright in the field, like long stooks, but without tying them in sheaves at that stage. In this way they will dry perfectly without danger of mildew, and may then be tied into bundles the size of a small sheaf of oats, and then stacked until it is convenient to bring it to market. Flax from Canadian seed ought to produce stalks from two feet six inches to two feet nine inches of clean stalk before it commences to branch, eight or ten bushels of seed on the arpent. (The better the flax the less seed there should be.) It should weigh 1½ tons per arpent, seed included, and be worth £8 per arpent. But this, like any other crop, must vary very much in productiveness and price. Some boasting of twenty bushels of seed per acre, and of their crop being worth £20 per acre. Such cases may occur, but are not to be relied on as a general rule.

Dutch and Russian seed will grow three feet before branching, and consequently will have a greater weight of flax. But the Canadian flax may grow so fine as to be more valuable, and in this way good quality might compensate for deficient quantity. I believe if Canadian flax were pulled rather green, before the seed had ripened, it would be remarkably fine in quality, and bring a high price; the price of dressed flax varies from £40 to £80 per ton, the average being £56. An arpent would produce less than one quarter of a ton of dressed flax. The freight to England would be about £1 10s. per ton, which is a small per centage on the value.

Thus I have in general terms given the result of my observations and calculations, bringing the crop up to the period when it

passes from the hands of the farmer into those of the flax miller or merchant, which is another operation altogether, and which I will reserve for a future occasion, this letter being already sufficiently lengthy.

I am Your Obedient Servant,

W. J. K.

Lachine, 24th September, 1851.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

LECTURE ON LIME.

A Weekly Council was held at the Society's house in Hanover square, on Wednesday, the 9th of July, Colonel CHALONER, Trustee, in the chair; when Professor WAY, the consulting-chemist to the Society, favored the members with a lecture on the agricultural employment of lime.

Prof. WAY commenced his lecture by remarking that lime was an abundant substance in nature, not, however, as lime, chemically considered, and in its pure or caustic state; but in combination with acids, forming chalk, gypsum, bone-earth, and other well-known substances. Caustic or quick-lime for agricultural and building purposes was generally obtained from the carbonate of lime, either in its pure forms of chalk or marble or as existing in mixture with other mineral substances in the varieties of limestone. This carbonate of lime contained by weight about $43\frac{1}{2}$ per cent. of carbonic acid or fixed air, which was evolved from the lime in a state of effervescence by the superior action of other acids, or driven off from it by the application of a red heat. In the latter case the limestone was placed along with the requisite quantity of fuel in a suitable kiln, and burnt for a proper time, when the gas escaped into the atmosphere, and the quick-lime was left behind in the kiln. He remarked, however, that when chalk was heated in a crucible covered with a lid, it became fused, without parting with its carbonic acid; in fact, that the mechanical action of the atmosphere was required to carry off the gas from the chalk as it became gradually released from its chemical union with the lime; for chalk, as long as surrounded by carbonic acid, would be protected from further decomposition, and remain carbonate of lime. On this principle it was that a current of watery vapor was so useful in the lime-kiln in effecting a circulation of air through it, and thus removing the gas; and this was occasioned by using fuel yielding much steam, such as twigs, &c. It was also a common practice to throw water into the ash-pit, with the view of attaining the same object. He thought that a jet of steam might with advantage be introduced into the kiln.

The lime when taken from the kiln was simply that earth uncombined with carbonic acid, and freed from moisture; but on exposure to the atmosphere it slowly attracted both water and carbonic acid gas, and assumed its original composition, though not its mechanical form, being reduced to an impalpable white powder. Water being poured over the calcined lumps from the kiln, it is rapidly absorbed, and its latent heat being given out, the lumps crack, become very hot, and steam rises; and the lime having become thus slaked by the absorption of about one-third its weight of water a definite combination, known to chemists as hydrate of lime, is the result. Lime is always used practically in agriculture in this state; but it was common to cart it from the kiln into the field and leave it in heaps to become gradually converted into hydrate; it was found to yield a finer powder by this exposure to air than by the quicker process of slaking with water. The lime forming these heaps, thus changed into hydrate, would, in the course of time, also take up carbonic acid from the atmosphere. It was, therefore, he thought, not desirable, when the use of quick-lime was the object, to let the heaps lie too long before turning into the soil; else, why burn the lime? It took, however, a long time for the carbonic acid to penetrate into the interior. He referred to examinations of old walls, built centuries ago, the mortar of which contained lime still in its caustic state. To the practical farmer, the quantity to be applied, the proper time of application, the nature of the soils, and the method of action were all important topics for their consideration, in reference to this powerful mineral manure. He thought that the action of lime must be regarded as a strictly chemical one, when it was considered how small a percentage of increase of lime would be made in the soil by even large and constant dressings; in fact, that to impregnate a soil to the depth of 10 inches with one per cent. only of lime, 300 bushels per acre would have to be applied. He considered air-slaking to be more consonant with common sense as well as with theoretical views than water-slaking, as the lime would become more evenly affected by the atmosphere, and in a better state for distribution. He then referred to the relation of lime to animal and vegetable manures. He thought it prejudicial with farm-yard manure, unless immediately mixed with the soil; that liming, in fact, ought to answer when taking place either immediately before or after manure; the ammonia contained in it, set free by the decomposing agency of the lime, and taken up by the absorptive power of the soil, being at once at liberty for the supply of food to plants. He recommended small quantities of lime to be mixed with manure in the soil; but not with manure in the yard. There was no better way of destroying or dissolving

animal and vegetable matter than by mixing lime with the soil. With regard to the time of application, lime, if used in small quantities, might be put on immediately before or after the manure, as he had already stated. In South Wales liming took place every season, and is so essentially a part of their manuring, that comparatively little care is taken of ordinary animal or vegetable refuse. To such an extent is the conveyance of the lime carried that the Rebecca riots in that part of the United Kingdom had their origin in disputes connected with the tolls levied on lime-carts. It is a question what the peculiar success of the Welsh system of liming arises from. Local customs, he remarked, were generally correct, more or less. As a constant application, lime was no doubt the most powerful agent we could introduce into the land. No substance, he thought, was ever taken up properly, as food by plants until combined with the soil. The aluminous silicates generally had a great influence in this respect. Boussingault had shown that plants died if placed in solutions of the fixed salts of ammonia, as sulphate or muriate, but lived in vigor when placed in a solution of the volatile carbonate of that alkali. Prof. Way's experiments all tended to show that ammonia unites in a definite form with the soil, such ammonia being either derived at once from the carbonate or from the fixed salts when the alkali is replaced in them by lime; the sulphate and muriate of ammonia, for instance, being converted into the sulphate and muriate of lime, and coming away, while the ammonia remains in the soil. He then ventured to put before the meeting a hypothetical statement of his views on the machinery of this action. He believed that a double silicate of alumina and lime, or something of that kind, existed in the soil. When sulphate of ammonia is applied, its ammonia goes into the double silicate, and lime comes out to form sulphate of lime. When the ammonia is required by the plant, it leaves the alumina and silica, which then require lime, in order that it may be restored to action, and prepared again to exchange that earth for ammonia, which in its turn is given up to the plant, and so on, as long as lime is present on the one hand, and ammonia furnished in some shape on the other. When farmers add lime to their land, they form these double silicates, and, therefore, it appeared to him more rational that they should, with this view, add only small quantities of lime frequently, instead of large doses at once. Perhaps slake lime with ashes, or lime alone, might be used in the first instance. Lime decomposed, animal and vegetable matter, and thus furnished food for plants. It had also been supposed to act on the potash of granitic rocks. Liebig had made much of this setting-free of potash in the soil. Aluminous silicates take up potash, which replaced the lime, in

them, in the same manner as ammonia had been described as doing. The salts of potash were retained by soil even after having been heavily limed; and he therefore considered that the theory which supposed the lime to act by setting potash free was not so well founded. If land was overlimed, ammonia would not be absorbed, but would all be set free. Attention should be paid to liming the land, as well as to arranging for the absorption of ammonia. One of the most important consequences of overliming is exhausted by setting free and getting rid of that which constitutes its capital, namely, its ammonia; an evil of which the magnitude may be estimated by the means required to repair the loss, namely, the supply of ammoniacal salts to the exhausted land; and by the fact, mentioned by Mr. Lawes, that while only 17 bushels of Wheat were grown without manure, 35 bushels were raised by the aid of ammoniacal salts; the remedy to make good the loss thus marking its extent. He agreed with the Hon. Mr. Clive, that if we knew the true use of lime we should never omit it as an accessory to our manuring operations; but while taking advantage of lime, we should never let them supersede the use of other manures. In conclusion, he remarked, that in small doses of quicklime we had always at hand the ready means of making animal and vegetable manures more available, and also of effecting that decomposition of the silicates which carbonate of lime cannot effect.—Mr. Hammond observed that the more ammonia there was in soils, the more marl they required in Norfolk to secure it; according to their old adage, "more muck more marl."—Professor Way remarked that when lime as a stimulant in small doses increased the growth of a crop, it did so for time, if the plant was there to receive it; but that if lime was added in such an amount as to set free at once all the ammonia in a soil, such volatile alkali would be floating about too long, and would be lost to all but the first crop.—Mr. Slaney, M. P., inquired of Professor Way how much lime he would recommend on an average soil—30 or 300 bushels? In Shropshire they were accustomed to lime very heavily, 10 or 12 cart loads, or 400 bushels per acre.—Professor Way thought 400 bushels of lime out of all reason; 30 or 40 would be abundant, in a chemical relation.—Colonel Challoner, the Chairman, remarked that Professor Way merely gave his results as a chemist; for practical details Mr. Slaney had better court the experience of those of their members present who were most conversant with that particular branch of mineral manuring.—Mr. Thompson stated, that it was the Scotch system to employ large dressings of lime at the beginning of a lease, for instance, from 200 to 300 bushels to the acre, and the effect of these was not found to be exhausted by the termination of

the lease. Could Prof. Way reconcile that practice with theory? by one year, or for a great number of years?—Sir Robert Price referred to the old agricultural adage, “lime light,” &c.—Prof. Way thought the result would be in a rapidly decreasing ratio; the first crop would benefit largely, but towards the end the land would be worse than when first taken in hand. The plants would get a greater amount of food at the beginning than afterwards. In the case referred to there was more than we could see; the local circumstance might perhaps constitute it an exception. Sir John Johnstone considered that it was from practice that we were to glean data on which to frame principles for our guidance in this complicated question. It would be well worth inquiry, whether the rocks of South Wales were of such a nature as to render little animal or vegetable matter requisite in the soils which cover them; and also, whether in the Welsh course of cropping, any deterioration was found to take place. The lime probably set free potash or some other substance, which proved of value as nutriment to plants. If we knew the peculiar conditions of this case we should ourselves know what to do under similar circumstances.—Sir Robert Price thought, as Professor Way had shown them the theory, and the recommendation founded upon it, to try small doses of lime immediately before and after manuring, it was their own business as practical farmers to put such theory and recommendation to the test of experiment.—Mr. Thompson referred to his own experience of the importance of lime in conjunction with manure, in order to derive full advantage from its application. One of his farms having been over-limed many years ago, had since that time been treated in an opposite extreme, and not limed at all. When he took it in hand himself there was not a field on it would grow a crop of white turnips, or in fact yield anything else. Lime was considered the best means of restoration. The fingers and toes which had come on the turnips after the lime had been discontinued, gradually disappeared with the new application of lime after the second hoeing; in the first course the effects of the lime did not show themselves, but in the second they were as satisfactory as could be wished. Indeed, wherever a fence had been taken up, the failure where the lime had been omitted was most striking. A square acre was purposely left, on which no lime was applied, but which was in other respects manured as usual. The result was a crop of only two tons, tops and bottoms included, of white turnips; while the rest of the field, which had received the application of the lime, yielded 20 tons. He had these turnips analyzed closely, and found that their chemical constitution was as nearly as possible the same except that nitrogen was wanting in the bulbs from the unlimed square acre.

The fact then came out. Lime, indeed, had appeared to him to have a most material effect in giving to light soils the power of retaining ammonia, although nothing definite was known as to the exact mode in which it enables soils to act. The farm to which he had alluded was a light fertile soil on the new real sandstone. Sir Charles Monteith refers to this value of lime applied to soils on the same formation, in the following passage (Journal II., 410):

“The farmers of Scotland think that they cannot raise good crops of grain without lime, as the greatest part of the south of Scotland is composed of new red sandstone, grauwacke, and granite, and therefore devoid of lime, which forms a very considerable portion of every fertile soil; indeed it was found that the soil in Dumfriesshire did not produce well-filled barley crops till the farmers employed lime, which they now do to a great extent, and find it equally useful for potatoes and turnip crops, which is amply testified by the farmers purchasing lime to the amount of £3,000 annually from my lime quarry at Close Farm.” He also adds, “In Craven, Yorkshire, lime is employed very extensively as a top-dressing even upon lime-stone soil. I have found that cattle feed upon pastures well top-dressed with lime much quicker, and that the meat is much richer and better mixed than upon pastures apparently equally productive of herbage.”—Mr. Charnock, of Wakefield, remarked that it was a common practice in the north to mix lime and manure together for the potato crops, and the growers found the benefit of it on the old-going strong soils of the country. On the magnesian Limestone, to crop turnips at all, farm-yard manure was required as well as artificial; and without even then obtaining a full return for the outlay. The north-west of Yorkshire was the district of Mountain limestone, and there little manure was applied, as the lime itself acted on the soil, which contained a larger proportion of potash than magnesia, on account of which circumstance the soil was maintained in a state of fertility not seen elsewhere, excepting on the old red sandstone, and the district was distinguished by a luxuriant growth of beautifully green grass extending to the tops of the hills. In the neighborhood of Settle they burned their lime, and had the most fertile grasses on the land where they applied it. The lime, however, was not fully burnt. As the limestone in that district appeared to Mr. Charnock to have, in its natural state, a peculiar efficacy, he suggested, at an agricultural meeting held at that place, that the limestone should not be burnt, but ground into a fine powder; when an old farmer replied that he had tried ground limestone, and had found its effects on the soils and crops to be more permanent than when applied burnt. Mr. Charnock thought Prof. Way’s a very good suggestion, that the lime

should be applied with the manure. They were told, however, in Yorkshire, that such was a bad practice, but the vigor of plants growing on manure heaps indicated the excess of ammonia. They had been taught not to set free the ammonia; but he believed that in strong soils it would be beneficial to do so: first lime, then plough and ridge, and lastly manure in the ridges.—Dr. Calvert referred to magnesia and the blue lias. Sir Humphrey Davy and others had stated that caustic magnesia destroyed the crop. Dr. Calvert could himself suppose any caustic application to be destructive to vegetation. When ordinary lime and magnesia occurred together in a calcined state, he understood the lime first attracted the carbonic acid from the atmosphere, leaving the magnesia caustic until the lime became mild. Magnesian lime on a clover-leaf was said to destroy the weeds, and the magnesia to lose its causticity in the process. In the north of Yorkshire Lord Feversham applied large quantities of white lime on peaty soil. It is allowed to lie for two or three years, being stirred during that period; and the peat becomes excellent light land, and grows turnips. He thought it desirable that the real action of lime on peat should be ascertained, as contradictory opinions existed on that point.—Prof. Way remarked, that the active acid qualities of the peat were neutralised by the lime; which also, by its caustic action, brought into play the inert matter which peat contained.—Dr. Calvert considered quick-lime to be a powerful digester of vegetable matter. On grass lands, however, chalk might be applied where lime would destroy. He had found it particularly useful on strong clay land, in promoting the growth of grass lawns, in those cases of failure where no renewal of turf will permanently effect the object. He had reason to believe that the half-burnt, and also what was called the “rotten” limestone, might in many cases be employed with advantage.—Mr. Charnock could corroborate the utility of these substances. The rotten white lime was a peculiar kind of stone, and yielded a mild lime, which might be used for improving certain soils, at the rate of 4 or 5 tons an acre.—Dr. Calvert observed that the tenantry of Lord Feversham were required to apply to their peaty land 96 bushels of lime every fourth year, after a crop, a fallow, and a green crop. This was considered a full dose, but thought to be too much, notwithstanding the peaty character of the soil. It was a very common practice in Yorkshire to mix manure with lime for their Potato and Turnip crops. There was, however, something apparently destructive in the Potatoes under this management, for the crop of Wheat was inferior where the Potatoes had been grown. With regard to the Welsh soil, he thought there were some circumstances peculiarly favor-

able to vegetation; as in the plain of Catania, in Sicily, with which he had in former years been well acquainted, and where white Wheat was grown in successive years. The blue lias limestone contained silica in a fine state of division, and it is so easily fused at high temperatures as to render a mixture of it and the white limestone preferable. The fineness of the silica might probably in some measure account for the effect on Wheat. Mr. Thompson stated that there was the real and the inferior magnesian limestone: where forty bushels of the former had been applied nothing grew again for four or five years, except here and there weeds and knot-grasses; while from seven to nine bushels of the inferior variety was an excellent application.—Col. Challoner had often had occasion to remark the affinity of Clover to lime; and some years ago his father had drawn his attention to a curious circumstance that had fallen under his observation in connexion with that affinity. A cart having broken down on Bagshot Heath, a heap of lime was left there for two months and then removed. In the following year long heath was found to be destroyed, on the spot where the heap had rested, and a beautiful patch of Dutch Clover had come up in its place. Sir John Sinclair quotes a similar circumstance, as observed by Dr. Fenwick, of Durham:—

“A quantity of very mild lime was laid in a heap, where it remained for some time, and when it was removed, the spot was covered with white Clover. A heap of hot lime gas left for the same space of time: no vegetation took place for a considerable period, and the spot was at length covered with Couch-grass. Neither the Clover nor the Couch-grass could be produced by the heaps of lime, but the circumstance is thus accounted for:—The hot lime retained its causticity much longer, and in that state destroyed any seeds contained in the soil; but the Couch-grass, being less easily destroyed, or shooting and spreading from the neighboring land, soon took possession of the vacant spot. In regard to the Clover's following the mild lime, there is nothing singular; as its seed is very generally diffused, and always vegetates in a calcareous soil.”—*Code of Agriculture*, note 225.

—Mr. Dyer referred to the injurious effects of liming, where such an application, from the nature and condition of the soil, was not required. He stated the instance of a large landowner who, on removing from Somersetshire into Hampshire, inquired of Mr. Dyer whether he should lime his land or not. Mr. Dyer informed him that the soil already contained plenty of that earth, and a further supply would not only be useless, but perfectly injurious. A kiln, however, was erected, but it was soon abandoned. On the other hand, chalk was of a great benefit, under the same circumstances, in restoring a

park, the turf of which was, 40 years ago, underlaid to the depth of six inches with that substance. Mr. Dyer would venture to recommend the proprietor of the lawn to which Dr. Calvert had referred, to take off the turf an inch or two, and apply chalk underneath it.—Mr. Buller, of Dilhorne, thought that the effect of burning limestone was merely to reduce it to an impalpable powder as lime, which it retained on its conversion again into chalk when exposed to the atmosphere.—Professor Way remarked that lime entered into new combinations, which chalk was incapable of effecting.—Mr. J. Mainwaring Paine recommended a trial of caustic lime, ground to powder, in its unslaked state. He could fully corroborate the statement of Mr. Thompson, in reference to the occurrence of fingers-and-toes, on a gravelly soil, which the tenant would not lime, and as a natural consequence had an excellent crop of those vegetable deformities. He was then induced to lime his land, when, after the first course of rotation, he had excellent crops of Turnips.—Mr. Hammond observed, that in Norfolk they never used lime, but grew Turnips without disease. They had, however, clay, chalk, and marl, which they put on all new and fresh lands at the proper time, and in a proper quantity.—Mr. Buller thought that circumstance a corroboration of the correctness of his view, that it was not caustic but mild antacid lime that was required.—Dr. Calvert had understood that chalk was most suitable for farm-yard manure and green crops, while lime was best adapted for grain cultivation; according to the remark of Colonel Le Cousteur, that wheat dressed with farm-yard manure was coarse and diseased.

On the motion of Sir Matthew White Ridley, Bart., seconded by Mr. Buller, the best thanks of the Council were voted to Professor Way, for his kindness in delivering a lecture before the members on that occasion.

Among the distinguished foreign visitors present, were M. Payen, Member of the Institute, and Secretary of the Central Agricultural Society at Paris; Mr. Johnson, Secretary of the New York State Agricultural Society; M. Nathorst, Secretary of the Royal Agricultural Society of Sweden; and M. Hedengren, of Stockholm.

The Council adjourned to the 30th of July.

WOOL.

The wool of the different races, families, and breeds of domesticated sheep differs so widely in comparative length of staple as to have occasioned them to be classified into short-wooled, middle-wooled, and long-wooled, and differs also so widely in comparative softness and tenacity, as to have caused them to be classified into coarse-wooled, medium-wooled, and fine-wooled. But the wool of any one breed differs both in length

and in fineness, as well as in other properties, according to the circumstances of climate, and pasture, and treatment in which the breed is reared and maintained, and the wool of each individual of every breed, in all circumstances has somewhat widely different properties in different parts of the body. The wool of the most steady climate, the most congenial pastures, and the most judicious management, is always bulkier and finer than that of inclement districts, irregular feeding, and bad store husbandry; the wool of light, arenaceous or calcareous sheep-walks has always a cleaner texture and a purer color than that of such soils as those of some parts of Gloucestershire, which impart to it an orange tinge, or that of such soils as those of some parts of Hertfordshire and Warwickshire, which give it a brownish hue, or that of such districts as the fens of Lincolnshire and Cambridgeshire, which give it a dark blue tint; and the wool of the shoulders, back, and sides of any individual sheep, is finer than that of the upper part of the thighs, the upper part of the legs, and the part extending thence toward nearly the haunch and the tail; and the wool of these parts, again, is finer than that of the upper part of the neck, the throat, the breast, the belly, and the lower part of the legs. The separating and assorting of the different qualities, whether from one fleece or from a collection of fleeces, is a nice process of art, and is performed sometimes under the direction of the manufacturers who have purchased and are about to use the wool, but more commonly by a class of persons called wool-staplers, who have qualified for their employment by a regular apprenticeship, and who purchase the raw material from the grower, and sell it in an assorted state to the manufacturer. The operator unrolls the fleece on a table, spreads it out full under a clear light, and, under the joint guidance of his sight and his touch, culls out successive locks of uniform fineness of filament, and deposits them in a basket; and he assorts the whole into six or ten, or, in some cases, a greater number of kinds, and has beside him a separate basket for each kind, and goes through the whole process with a promptitude, accuracy, and celerity which quite astonish the uninitiated. "In sorting wools," says McCulloch, "there are frequently eight or ten different species in a single fleece; and if the best wool of one fleece be not equal to the finest sort, it is thrown to a second, third, or fourth, or to a still lower sort, of an equal degree of fineness with it. The best English short native fleeces, such as the fine Norfolk and South Down, are generally divided by the wool-sorter into the following sorts, all varying in fineness from each other—viz., first, prime; second, choice; third, super; fourth, head; fifth, downrights; sixth, seconds; seventh, fine abb; eighth, coarse abb; ninth, livery;

and tenth, short-course or brack wool." But either these divisions or any others to a lesser or greater amount, would be far better designated by simple numerical names; and all vary in their relative market value, according to the demand for respectively coarse, middle, and fine cloths. The long wools, in an aggregate view, have a staple of seven inches and upwards—the middle wools, of from four to seven inches—and the short wools, of from two to four inches.

The comparative properties of wool are very vaguely expressed by the epithets coarse and fine, or by any other two or three general words; and they have been somewhat better designated as follows, by Arthur Young, in the order in which they are esteemed and preferred by the manufacturer:—"First, fineness with close ground—that is, thick-matted ground; second, fineness; third, straight-haired, when broken by drawing; fourth, elasticity, rising after compression in the hand; fifth, staple not too long; sixth, color; seventh, what coarse is in it to be very coarse; eighth, tenacity; ninth, not much pitch-mark, but this is no other disadvantage than the loss of weight in scouring. The bad or disagreeable properties are:—Thin, grounded, topky, curly-haired, and, if in a sorted state, little that is very fine, a tender staple, no elasticity, many dead-white hairs, very yolky. Those who buy wool for combing and other light goods that do not want milling, wish to find length of staple, fineness of hair, whiteness, tenacity, firmness, elasticity, and not too many pitch-marks." Another, clearer, and shorter classification of properties may be made into soundness, length, cleanness, color, softness, and feltability. Soundness arises from the healthy condition and proper feeding of the animal, and comprises uniformity, flexibility, and kindliness of the pile, but perfectly comports with wide diversity of the other properties correspondent to the different families and breeds of sheep. Length or shortness, or any medium between the two, must be variously suitable according to the different purposes of the manufacturer, but ought always to be uniform in the same specimen, or, at least, as nearly so, as will comport with due regard to the assortment of the other properties. Cleanness, though mainly desirable for preventing expense and loss in the process of scouring, is desirable also for its appreciable conservation of soundness and softness; and it requires that no dirty or discoloring ingredient be employed in salving, that as little as possible of any ochreous substance should ever get into the shepherd's or store-master's possession, and that the living flock, as well as the separated fleece, should be kept aloof from whatever might pollute them. Color is important, because wool excels cotton and linen and even silk, in taking on bright and beautiful hues in the process of dyeing—and because white wool

receives the coloring matter more readily than black, and clear white wool more readily than creamy-colored, or brownish, or dingy—and because any mixture or black filaments with the white mars the harmony of the dye, and renders the whole specimen unsuitable for the reception of the brighter and more delicate hues. Softness has been raised to paramount importance by the demands of fashion; and depends partly on the minuteness of the fibres, partly on the combination of soundness and feltability, and partly on the abundance and tenacity of the lubricating yolk; and it more or less comprises or includes the two properties which Arthur Young and many other popular nomenclators call fineness and elasticity. What we have designated feltability is the most curious of all properties; and is identical, to a certain extent, with what is popularly called fineness, but still more so with a peculiar and very beautiful structure of the filaments quite recently discovered; and may be well understood from the following account of it by Mr. Spooner:—"The felting property and other qualities of different wools have long been made known by practical experience; but we are indebted to Mr. Youatt for the discovery, that the felting property depended in a great measure on the number of serrations on its surface. This gentleman, after several laborious attempts, at length succeeded, with the assistance of a powerful achromatic microscope and its scientific maker, in developing the singular structure of wool and the difference between wools of different qualities. Each fibre was found to consist of a number of leaves attached to a central stem or band, and extending in one direction—viz, from the root to the point. This was the result of examining a filament on an opaque object; but when viewed as a transparent object, the edges of the leaves were more visibly apparent, appearing like so many teeth pointing in one direction, and thence properly termed the serrated edge. The fibre of wool thus magnified appears somewhat like the common fir-apple. On examining different wools, Mr. Youatt found that the number of serrations corresponded to the felting qualities of the wool, being in the Saxony no less than 2,720 in the inch, in the South Down, 5,080, and in the Leicester 1,860 alone. Thus fine wool differs from coarse in having a greater number of serrations and growing in a more spiral form, which, of course, increases the number of the number of curves; but to this we must add the fact of its being actually finer or smaller in its fibres; so that while a fibre of the coarsest wool is 1-450th, the finest is 1-1500th of an inch in diameter. It can easily be conceived how this curious structure of the wool, particularly its serrated edge, must conduce to its felting property. As long as the filaments are kept in the same direction, these serrations are comparatively

inoperative; but torn to pieces by the card and mixed in every direction, the serrated edges must tend to hook and entwine together; and this must be pretty much in proportion to the number of serrations, in a given space, particularly when this is added to the fact that the wool is more curved as the serrations are numerous."—*Rural Cyclo-pedia*

FRENCH FARMING.

TO THE EDITOR OF "THE TIMES."

Sir,—Having lately had a few days' holiday I thought I could not spend them better than by making a little personal investigation into the agriculture of that part of the continent from which we have unexpectedly drawn our greatest supplies—our old rival, France. As I know your space is valuable, I confine myself to a short description of what I saw and heard in the district La Beauce. It is described as the granary of France, and is an extensive and somewhat elevated plain of good sheep and corn land, lying between Etampes and Orleans, and from 30 to 40 miles south of Paris.

There are very few trees and no fences, and the country is all under cultivation. The land, which is much of the same quality as the lighter (not sandy) soils of Essex and Suffolk, is chiefly held in large farms of from 300 to 700 acres by tenant-farmers. The farm-buildings sometimes stand by themselves near the centre of the farm, but more frequently are in villages at considerable distances from the extremity of the occupations to which they severally belong. The farm-houses and the farmers are in all respects, as regards comfort and intelligence, very much like the same class of large farmers in our English counties. I met with two of them; one occupying about 500, and the other 700 acres. They were very civil, communicating with me readily, and showing their stock, and entering freely into the details of their management.

In so far as I could understand it, their system is to cultivate their land in three divisions; one-third of the farm being every year in wheat for sale, one-third in green vegetable crops for consumption by stock, and one-third in oats and forage for the horses. The crops cultivated are wheat, potatoes, beet, clover, lucern, and sainfoin, and oats and barley. The wheat is generally good, better than the average of England; the green crops are middling, and the oats universally a poor, small crop.

"Very few cattle are kept in this district during the summer, but every farm has a regular sheep stock. They are whitefaced, thin-looking sheep, with short, close wool, of which they were being shorn in the first week of July. The wool seemed to have been greased, and was unwashed and dirty;

but, notwithstanding, fetched 9d. per pound. On the 700-acre farm a stock of 900 sheep is kept, the sale-sheep of which are parted with at two years old, then weighing from 32lb. to 45lb., and bringing fleece and carcass together, about 21s. each. Some farmers keep them till they are four years old, when they weigh from 70lb. to 80lb., and fetch about 36s.

For this farm 20 working horses are kept, stout, good-sized, active-looking animals, in high condition. They are fed in a large stable, summer and winter, tied up in stalls, separated from one another by a hanging bar. They are worked two abreast, in plough and harrow, and step out very freely.

The farm buildings are erected and kept in repair at the landlord's expense. They are in good order, and very commodious for the object for which they are intended. The stable is large and airy, the yards well sheltered by lofty walls, and provided with ample shed room, and the barn has two bays, with a thrashing space in the centre, fitted with thrashing and winnowing machinery, driven by six horses from the outside. All the manure, solid and liquid, is carefully preserved for application to the land.

Thirty laborers are constantly employed on this farm, all of whom get their food in the farmer's house, the families of the married men being supported at their own houses from the husband's money wages. They are engaged by the year, and seldom changed, the rate of wages being from 10d. a-day, excluding Sundays, for the lowest, to 1s. 2d. for the best, with their food, which is of excellent quality, and includes meat and wine every day, the wine being equivalent to our beer. The laborers are active, well-fed men, clothed very much like our own peasantry, and with none of the ragged garments for which our western neighbors are unhappily distinguished.

The rent of this farm is 24s. 3d. an acre, and the public taxes and rates of all kinds 5s. 2d. an acre. There is no poor-rate, there being very few poor people, and they are supported by voluntary subscriptions. The rate of rent in this district varies between 18s. and 25s., and the taxes from 3s. 6d. to 5s. 6d. an acre, or, taking the French terms, the rent is from 50f. to 75f., and the taxes from 10f. to 15f. per hectare. Farms are held on 12 years' contracts, which are renewed without difficulty at greater or less rents, as prices at the time indicate. Within the last ten years the rent of land in this district is estimated to have increased 10 per cent., the produce increasing very much by improved cultivation and more intelligence among the farmers, who are on the whole prosperous, and the laborers well employed. The landlords seldom live on their estate, but they transact directly with the farmers, receiving their rents themselves, and paying for such buildings as are necessary for the

farm. But their property is small, seldom exceeding two or three farms, more commonly about £500 or £600 a-year, £4000 a-year being a very large rental indeed. Land, remaining amid all political changes secure, is considered the safest investment in France, almost the only safe investment, and, being much in request, it cannot be bought to yield more than 3 per cent.

Small proprietors, of whom there are many, generally cultivate their own land. Their holdings are from 20 to 70 acres (8 to 30 hectares) in extent, and are considered to be, as a rule, better cultivated and more productive than the land farmed by large farmers.

Such, then, being the state of the farmers and the farming—the rent, taxes, and labor being very much on a par with our own, the corn-cultivation and crops as good as ours, and more extensive, though the stock, management, and returns are greatly deficient—how do the French farmers like the present prices? Quite as little as our own. Free trade with England, they say, has kept their prices from falling disastrously; but, unless prices improve 30 per cent., they declare that the rents must either come down or they must give up farming. A succession of good wheat-crops, which last year reached their climax, has so overloaded the markets that the price has been depressed much below the average; and the prospects of the present year give promise of a crop quite as good as the last. A large flour-miller at Etampes informed me that the average price of a sack of flour was 28 to 32 francs, but during the last year it had sold for 20 to 22 francs. The farmers declare that they cannot farm to profit with less than that average price, but during the last six weeks their market had considerably improved, and they anticipated better prices in the ensuing season.

The flour-millers with whom I conversed ascribed the superiority of their flour less to the introduction of improved machinery than to the quality of the wheat and the greater attention to details in the process of manufacture. They use English machinery with French stones; and, by perfecting their processes as much as possible, they have greatly improved the quality of the flour within the last ten years.

Without trespassing further on your valuable space I may say that my short tour, which extended into Belgium, Germany, and Switzerland, has convinced me that our agriculturists are now exposed to a very serious competition, whether as regards the soil, the climate, the industry, or the skill of the foreigner.

RUSSIAN AGRICULTURE.

The Chevalier de Masslow, secretary of the Imperial Agricultural Society of Moscow, on his visit to England, for the purpose

of attending the Windsor meeting, was the bearer of the following interesting presents, on the part of that body, to the Royal Agricultural Society of England, namely:—

1. A series of fifteen statistical maps of European Russia, in folio size, prepared expressly for the occasion, from authentic data furnished by the government, exhibiting to the eye, by means of outline, figures, diagram, and color, the following important details in amount as well as circumstance:—The different geological characters of the country; the variations of climate in different districts; the average production of corn in the several localities during the last ten year; classification of the different provinces according to the average price of corn during the same period; lines of transport for corn from different districts of the empire to the metropolis; distribution of woods and forests; localities in which flax and hemp are grown; localities in which tobacco is grown; localities in which beet-root sugar is manufactured; number of sheep in each locality; number of horses in each locality; number of cattle in each locality; lines of transport for cattle from the southern to the northern division of Russia; places where agricultural exhibitions have taken place; distribution of the agricultural schools of the empire.

2. Sectional drawings on a large scale, of the original and simple, but (for the rich soil of Russia) effective field implements of Russia—namely, four drawings of Siberian ploughs and hoe; ten drawings of cultivating implements in Lesser Russia, with view of the mode of yoking the draught oxen.

3. Printed reports—namely, Report of the proceedings (in the Russian language) of the Imperial Agricultural Society of Moscow, for twenty-five years, from the date of its foundation to 1846. Report of proceedings (in German) from 1846 to 1850, under the following heads:—Results of the society's operations; manufacture of sugar from beet-root; silk cultivation; management of bees; cultivation of madder; education of the laboring population; personal missions and travels; foreign associations, journal, and correspondence; improvement of sheep-breeding; agricultural schools, Model Farms, and reading clubs; manufactory for implements; seed depots; rewards, presents, communications. Reports of proceedings (in French) of the Jubilee Fete of the Imperial Agricultural Society of Moscow, on the occasion of its twenty-fifth anniversary, 1846.

4. Six specimens of silk, grown, with success, in Russia, under a higher latitude than that of the north of England; with a supply of cocoons.

The Chevalier de Masslow, in laying these interesting presents before the council, on the part of the Imperial Society of Rural Economy at Moscow, stated that, both institutions having the same object in view—namely, the prosperity of practical agricul-

ture, and the progress of agricultural science—it was his great wish that they should enter into a continual relation with each other. As a proof of the sincere wish of the Moscow Society to form this communication they had deputed their secretary, Chevalier de Masslow, to offer these presents for the acceptance of the Royal Agricultural Society of England. He remarked that the first map of the Atlas of Russia, then laid before the council, represented the different qualities of earth in the agricultural districts of that empire, among which the black soil which formed the foundation of the agricultural wealth of Russia, comprised about 17,000 square miles. The Moscow Society were preparing, as a further present to the society, a series of samples of this celebrated soil (to which reference has been made by Sir Roderick Murchison, *Journal* III., 125,) taken in different localities, from the three different beds in which it occurred (of from one to four feet thick each), with an analysis of the soil from each of these divisions, a memorandum of depth, and a statement of produce resulting in the several crops. These beds of earth constituted a natural stock of the most fertile soil, replete with nutritive element, and requiring no manure, the action of the air on the stirred surface soil calling into active operation the latent energies of this invaluable gift of nature. It was on this account that their agricultural implements in Russia were so few and unvarying, but at the same time so perfectly efficient. That map also showed the occurrence throughout Russia of other geological circumstances—namely, of clay, sand, loam, peat, and salt; of morasses beyond the limits of grain cultivation; and of rocky districts still further removed from agricultural localities. He also remarked on the second map, in illustration of the objects for which the atlas has been drawn up for the information of the society, that it defined the limits of the cultivation as particular plants; showing, in the south, to what extent, northward, maize might be grown; next, to what limit vine cultivation extended; then the region for the growth of the cucurbitæ or gourd family; higher up, the range of rye cultivation; after that, the growth of spring wheat; and, most northward, the barley districts. On each of the maps in succession, similar details of great agricultural interest were given: but as they were written in the Russian language, so little studied in England, the Chevalier de Masslow kindly expressed his intention of forwarding to the society an English translation of these annotations; and also, should it be the wish of the council, it would give him great pleasure to publish the Moscow transactions in the English language, as well as in the Russian, German, and French. He then referred to the specimens of silk grown at Moscow, and laid before the coun-

oil, which he thought not unworthy of the attention of the society, at the cultivation of the mulberry tree in fifty-six degrees north latitude resolved the question of its capability of being cultivated for the growth of silk in all the southern districts of Russia, where its production admitted of the greatest extension. When the further presents he had mentioned should reach the society, along with these hundred plants collected by his friend, Mr. Annenkoff, in the neighborhood of Moscow, he trusted the council would receive them also in the same kind spirit as they did those he then laid before them, and “as a proof of the desire of the Imperial Society of Rural Economy at Moscow to enter into friendly relations with the Royal Agricultural Society of England, both having the same noble scope of promoting the knowledge and practice of agriculture, for the mutual well-being of both nations and humanity.”

The council having unanimously agreed to accept these valuable presents, with their warmest thanks, Mr. Raymond Barker, the vice-president, in the chair, communicated this resolution to the Chevalier de Masslow personally, at the sitting of the council, at which he had favored them with his attendance.

ON THE PULVERIZATION OF THE SOIL.

The benefit derivable from the access of the atmospheric gases to the roots of plants, and the knowledge that fertile pulverized soil absorbs and retains for them moisture, explain why these plants are benefited by having their lateral roots kept near the surface, and by having that surface frequently loosened by the fork and hoe. This is no mere imaginative theory, for as long since as the days of Cato, half a century before the Christian era, the importance of pulverizing the soil was dully appreciated.

“What is good husbandry?” inquires that writer. “To plough. What is the second point? To plough.” The third is, “To manure.” In later days, Mr. Barnes, one of the best practical gardeners of the present age, in a letter to us, says—“To secure good crops of carrots, parsnips, and onions, I make it a standing rule to trench the ground well in winter, throwing it into rough ridges, forking and turning it over during frosty mornings, which not only sweetens and pulverizes the earth, but eradicates insects; for I prefer a good preparation to early sowing; and practice has proved to me that a good season for sowing is any time between the 15th March and the 10th April. My practice is, sow everything in drills; hoe as soon as the plants can be seen breaking the surface, continuing the hoeing throughout the season at every opportunity when the weather will permit, but not during rain, or

when the ground is full of water—not for the sake so much of destroying weeds and insects, which are rarely to be seen if hoeing be followed up with spirit, but with a desire to keep one uniform pulverization and moisture throughout, which is the means of not only continuing the present crop in the greatest of health and luxuriance, but at the same time is making a beautiful preparation for the succeeding crop.

“I keep all ground, as soon as a crop is done with, well trenched, burying all the refuse I possibly can in a green state, casting the earth into rough ridges, tumbling those ridges over with a strong fork on frosty mornings in winter and spring, and during hot sunny days in summer; continually changing the crops; keeping the hoe at work at all seasons in suitable weather, and forking up all odd corners and spare ground without loss of time. By this management, I find the ground is always in good condition, and never tired by cropping; some judgment only being exercised in applying such properties again to the soil that have been taken from it, or that are likely to be required by the succeeding crop. To rest or fallow ground for any length of time, is only loss of time and produce; more benefit will be obtained by trenching and forking, in frosty or hot sunny weather, in a few days, than by a whole season of what is erroneously called rest or fallow. Trench, fork, and hoe; change every succeeding crop; return to the earth all refuse that is not otherwise useful in a green state, adding a change of other manures occasionally, especially charred refuse of any kind, at the time of putting the crop into the ground. Every succeeding crop will be found healthy and luxuriant, suffering but little either from drought, too much moisture, or vermin.”

All who have tried charred vegetable refuse as a fertilizer add their testimony to that of Mr. Barnes, that it is one of the best of manures. It is far more powerful, that is, it will produce a better crop of any kitchen garden plant than will an equal quantity of the same vegetable refuse uncharred. The reason of this appears to be, that charred, not carbonized, vegetable refuse decays faster than does the refuse uncharred; the earthy matters mixed with the refuse, also, become saturated with oxygen and carbonic acid during the process of charring, and these earthy matters, in which we include the oxide of iron which they contain, give out the excess of those gases to the roots of the crop. Moreover, charred refuse promotes the dryness, and consequently, the warmth of a soil; for not only is that refuse dried by the process of charring, but the mucilage and other parts of it, which become moist during decay, are decomposed, and only the more solid plants remain, which duly moulder away during their putrefaction. That charred refuse does promote the dry-

ness and warmth of a soil is readily perceived, if it be sown in drills with the seed. The surface soil over those drills is always drier than the other parts of the surface.—*Cottage Gardener*, vol. iv., p. 44.

FLAX MANAGEMENT.

Baron Mertens laid before the Council a sample of flax, prepared in a new and superior mode by a Dutchman, who kept the secret to himself. The Baron thought this sample very peculiar and instructive for flax-growers, and accordingly was desirous to take the earliest opportunity of calling the attention of the Council to the subject. The sample itself possessed to the eye all the beauty and general character of silk, and altogether appeared so extraordinary a manufactured production, that he hoped it would be taken into consideration.—Mr. Rowlandson thought, from an inspection of the sample of flax then laid before the Council, and a consideration of its peculiar condition, that it had been prepared by a process analogous to one which, from experiments he had made some years ago, he believed would prove very efficacious, and which he had himself long meditated to employ: namely, the adoption of the warm water method in combination with an alkali. This he fully believed might be practised without an infringement of any existing patent; although Schenk had patented a process claiming the right of using warm water only; others warm water and acid; others still, warm water and alkali. He thought it unfortunate that not one of these methods was complete and perfect within itself, but he fully believed that the great object would be attained by the union of them all, according to circumstance employing as much of each as any particular case was found to require. No doubt the Dutchman in question had adopted some plan of this description. The great difficulty was in the separation of the long woody tissues. This was effected perhaps the best, Mr. Rowlandson thought, by the putrefactive process, which was as efficient as required if it only acted uniformly through the flax and could be stayed at a certain point; but when bundles were retting, they were not affected alike throughout their mass, and acquired a dirty color which it was difficult afterwards to get rid of. Specimens of flax from Belgium and Ireland, in the Great Exhibition, exhibited this discoloration. The only process Mr. Rowlandson thought likely to be successful was that in which acids were employed in certain cases and alkalies in others, with warm water and rapid putrefaction. Flax was not, however, he remarked, to be grown, and at once, without thought or trouble on the part of the farmer, to be shipped off. There was no royal road to a knowledge of this preparative manufacture any more than it had been found for ages

there was to mathematics. The farmer could accomplish all possible things; but he must not forget in the case of flax, as of others, that he could only attain his object by the hard, up-hill course of learning his business. The Dutch specimen had probably been prepared by maceration alternately in warm alkaline water, and in warm acidulated water. In reply to an inquiry of Baron Mertens, whether he had ever seen finer flax than that now submitted to the Council? Mr. Rowlandson said that he had seen much finer: the fibre had not escaped injury. A great deal depended on the original fineness of the flax itself; and in separating the woody fibre from the gum and extraneous matters. The great merit of Claussen's method consisted in the successful manner in which he broke the flax into fine fibres.—Colonel Challoner asked Mr. Rowlandson whether he would kindly draw up and submit to the Council a brief statement, instructing farmers what it was best for them to do with their crop of flax fibre after having taken the seed from it for their cattle.—Mr. Rowlandson expressed the pleasure it would give him to find that any experience of his own could be rendered available to other members of the Society. We accordingly insert in this place the statement which Mr. Rowlandson has had the goodness to furnish, agreeably with Colonel Challoner's request.

Brompton, August 6, 1851.

“The following is a brief account of what I consider the best course for those farmers and landed proprietors to pursue who have grown flax this year experimentally—generally for seed—but who are unacquainted, or rather unpractised, in the preparation of the fibre; the latter, under any circumstances, being the most valuable portion of the crop. It may be well here to remark, that the most difficult part of flax-preparation is the preparation of the fibre after being steeped. The steeping of flax may be disagreeable and troublesome, but it is by no means difficult. The subsequent processes required to make the article marketable are, however, of a rather complex character, and can never be learned properly but by example and experience. Respecting any published or patented method of preparing flax, none are singly of a character to aid the farmer, whilst many are utterly delusive. That improvements can be made I am quite prepared to admit; and I am further confirmed in this opinion by witnessing the sample produced at the last meeting of the Council by Baron Mertens; but I wish here particularly to remind farmers, that if the most perfect system of management was devised to-morrow, enlisting the most refined aids of chemical and mechanical science, it would not the less prevent the necessity of care, thought, and trouble on the part of the farmer; for of any sys-

tem of flax management which may be adopted the former cannot derive the utmost amount of benefit from the crop unless the major part of the labor connected with its preparation is done at farmstead. The commonest calculation ought to convince any one of the above fact; for taking the value of flax-straw to be £4 per ton, and the produce two tons per acre, this straw could not be carted and forwarded by sea (400 to 500 miles) at a less cost than £2 per ton; add to which, there are so many chances against the success of any mode of preparing the fibre of flax for general manufacture other than some modification of the newest mode. It is certainly steeping that so many persons have thrown the flax straw away, seeing that under the worst management of steeping it will always be of value for making, sacking bags, and other coarse kinds of textile fabrics in common use for husbandry purposes. Reviewing the whole case of flax-culture, so far as it relates to the experimental attempts made by various parties this year, I am induced to recommend the following course—viz, to scutch out the seed, which may be done by knocking the heads against a board or barrel, on a cloth, and subsequently carefully stacking the straw for a spring ret. Care must, however, be taken that the flax-straw is well thatched. It is not necessary even to thresh out the seed at the cropping time, as it may be stacked and thatched down for spring thrashing and retting. In the latter case, however, the greatest care must be taken that the flax is quite dry when placed in the stack, and also that not the smallest particle of rain can obtain access to it; otherwise it will be utterly ruined. The stacking for spring thrashing is a system, however, not to be recommended, except in cases where the quantity of flax grown is large. In the course of last year I published an account of preparing flax in the *Illustrated London News*; and in the months of January and February of the present year a series of ten letters on the subject appeared in the *Morning Post*, in which the most approved methods known up to the present time were fully detailed. Notwithstanding the above remarks, I am strongly of opinion that further improvements can be made on flax preparation; but I wish to be emphatically understood that these would not be of any material benefit to the farmer, unless he attends to and executes them himself, and for this purpose he must undergo a course of attentive special self-education. Even under the *worst* possible management of steeping in, a crop of two tons of flax-straw will realize for common manufactures a greater sum of money than £8 per acre. Let, therefore, experimenters on flax-growing proceed first to secure the seed; then carefully stack the straw, as they would any other crop; and, during the leisure of the inclement season of winter, make themselves as practically ac-

quainted with the mode of steeping and dressing this crop as their circumstances will permit them. This is the most cautious, and, under all the circumstances, the best advice which I can give them. Ultimately, the successful flax-grower must rely on self-dependence and personal skill—the latter only to be practically acquired.

(Signed) "THOS. ROWLANDSON."

Mr. Thomas, of Glan-môr, near Swansea, informed the Council that the mountain farmers in South Wales were in the habit of growing coarse flax, the fibre of which was made by Carmarthenshire workmen into sacks, and it was used for that and other farm purposes. A friend of his grew three acres of flax, and found it answer well, as a market was found for it among the workmen connected with the great iron foundries of that district. But generally the difficulty was to know what to do with the flax fibre when the crop had been grown.—Mr. Rowlandson recommended stacking it after taking off the seed. The seed was in the greatest quantity when the crop was grown on strong land; but the fibre, on the contrary, was the most inferior in such cases. It was, at all events, always worth hemp price.

MUSTARD PLASTERS are admirable for any local inflammatory disease, as *pleurisy*, *head-ache*, &c. They are often prepared wrong. The best way is to mix equal portions of ground mustard and Indian meal, and then pour on *boiling* water, so as to make a thick paste. Spread it on cotton cloth the intended size, and then lay on its face a piece of bookmuslin or lace, which will prevent its sticking.

SORES FROM CUTS are rapidly healed by means of the substances sold by druggists and known as *Coryle Extract*.

A LIGHT BISCUIT.—Half-pound of flour, three ounces of butter or fresh lard, two ounces of sugar, one egg, half a teaspoonful of volatile salts.

A Remedy for a Burn, which will remove the pain in a few minutes.—Half-a-pound of camphor broken up in a pint of good rum. Keep it well corked and tied with a bit of bladder. Apply it with a linen rag to the part affected.

SEVERE BURNS, accompanied with blistering or the removal of the skin, may be healed by the following admirable remedy. Puncture the soft portion of a slice of bread, and boil it with sweet milk till it forms a soft paste. Spread it on a cotton cloth, and lay over the surface of this poultice a piece of bookmuslin, and then grease it with clean lard, to prevent sticking to the sore. Then, before applying, sprinkle thinly and evenly over it a little morphine and sugar of lead. This forms a very soothing and healing application.

BITE OF MAD DOG.—Wash and cleanse the wound at once, and apply to every part dry nitrate of silver or lunar caustic. Every family should have a stick of it. This destroys both the poison and the flesh it touches, which comes away. If the wound is deep, sharpen the stick, that it may reach every part. William Youatt, author of the celebrated treatises on dogs, cattle, &c., was repeatedly bitten during his lifetime by mad dogs, mad cats, &c., but always cured wounds in this way.

BLISTERS are equally efficacious and incomparably less severe, when the plaster is removed before the blister has become filled, and while large white pimples are just making their appearance. Cabbage leaf is then applied, and the blister fills in a few hours, and is attended with very little pain.

FROST PROOF CEMENT.—Mix tar with sand; it gradually hardens, and as a moisture cannot in the least degree penetrate it, it will never crack by frost. This was proved by the accidental upsetting of a tar barrel on a spot of sand—the cement thus accidentally formed remaining impenetrably hard for years, although under the rain-water spout, and exposed to all weathers.

HARVEST BEVERAGE.—Mix with 5 gallons of good cool water, fresh from the well or spring, half a gallon of molasses, one quart of vinegar, and two ounces of powdered ginger.

REVENGE.—A person being asked why he had given his daughter in marriage to a man with whom he was at enmity, answered, "I did it out of pure revenge."

HEALTH AND ITS BLESSINGS.—We are entitled to conclude, that if we have been fortunate enough to owe our birth and education to healthy, well-informed, and industrious parents: if from our earliest infancy we have constantly breathed a pure, fresh, and dry air, and have been permitted to give to our limbs their natural motion in daily exercise; if our persons and our apparel have always been remarkable for strict cleanliness; if in regard to our food we have invariably observed moderation, regularly and implicitly drinking at the same time nothing but pure water, or very diluted wine; if our houses are orderly, clean, dry, and well ventilated; if we have been trained from our youth to assiduity, industry, and method; if our reason and virtue have been fortified and improved by instruction and example; and our passions taught, by wholesome discipline, not to trouble our spirit; if, in fine, we have learned to fear God, love mankind, and do justice to all—we may confidently expect to enjoy continued health, and the happiness which results therefrom—with a well-grounded hope, moreover, of prolonging our mental and physical powers to the latest period of our existence."—*Dr. Granvill.*

WANT OF THOUGHT.

TIME to me this truth has taught,
 ('Tis a truth that's worth revealing.)
 More offend from want of thought
 Than from any want of feeling;
 If advice we would convey,
 There's a time we should convey it,
 If we've but a word to say,
 There's a time in which to say it.
 Oft unknowingly the tongue
 Touches on a chord so aching,
 That a word or accent wrong
 Pains the heart almost to breaking;
 Many a tear of wounded pride,
 Many a fault of human blindness,
 Has been soothed or turned aside
 By a quiet voice of kindness.
 Many a beauteous flower decays,
 Though we tend it e'er so much;
 Something secret in it preys,
 Which no human aid can touch.
 So in many a lovely breast
 Lies some canker-grief concealed,
 That, if touched, is more oppressed,
 Left unto itself, is healed!

POSTED BOOKS.

I MEET the men of merchandize
 Upon the streets to-day;
 I look into their eager eyes,
 Each on his anxious way—
 Each bent upon his own pursuit
 Of bargain or of sale.
 Each, in his brain, doth quick compute
 His gain by box or bale,
 And rubs his hands in proud delight—
 Applauds each plan invented—
 Makes up his ledger for the night,
 And posts his Books, contented.

Thou busy brother of the mart,
 A moment lend to me :—
 Within the ledger of thy heart,
 What balance dost thou see ?
 Amid the columns, clear and tall,
 Do "gracious acts" appear ?
 Doth any "light of goodness" fall,
 To make their mazes clear ?
 Dost thou compute the ample gain,
 From words and actions true ?
 If not, Ah ! cease thy labor vain
 And post thy Books anew !

The lark rose in the arched skies,
 And showered up'n mine ear
 A flood of glorious melodies—
 It seemed a spirit near !
 The waving grass flung from its blades
 O'erflowing benison,
 And tho' the fairy-peopled glades
 The blessing floated on !
 With laden heart and beaming eyes,
 And happy, hearty looks,
 I count up all my merchandize,
 And close iny Posted Books.

In mood of holy harmony
 I walk the world to-day ;
 Sweet influence benignantly
 Shines out upon my way ;

Clear eyes in clearness answer mine,
 Soft words in softness fall,
 True thoughts come truly and benign,
 And God doth gladden all !
 My soul is bathed in ecstacy,
 And leav' : up with delight ;
 A hand unseen doth follow me
 And post my Books to-night !

Ah ! brother, count thy richest wealth—
 The wealth of noble being
 An honest heart's pulsating health,
 A soul's wide stretch of seeing :
 What eyes do loving follow thee,
 What hearts throb at thy meeting ?
 What lips in blessings mention thee,
 What hands grasp at thy greeting ?
 If rich in these, thou'rt rich indeed,
 Thy soul in peace outlooks :
 If door—go, feed thy shivering need,
 On more than Posted Books.

A FEW WORDS ON HATCHING AND REARING POULTRY.

[We extract the following from the *Cottage Gardener*, a most valuable publication.]

In submitting the following brief hints on hatching and rearing poultry, the writer has endeavored, by adopting plain and simple terms, divested of all technicalities, to render himself perfectly intelligible to the merest novice in *poultry culture*. Having had many years' experience in the above, the information may be relied upon; and in the first place, I would recommend all parties desirous of procuring a superior breed of birds, at the least possible expense, to obtain two or three barn-door hens about to sit, then buy from some neighbour, having the desired breed, fresh-laid eggs, allowing from eleven to thirteen to each hen, according to size; should more than thirteen eggs be placed under a hen, and the weather prove cold, the chances are that one-third of the clutch, at least, are spoiled.

If an out-house or cellar can be used for the nest-house, so much the better, provided the floor is slightly moist. In the darkest corner place a good handful of broken oat-straw; and to better form a nest and prevent the eggs rolling out when the hen moves, a row of briks all round. In such a place the chickens will shell out strong and healthy. Many persons may wonder at my recommending a moist place; but let it be remembered, if you leave a hen to herself, she will choose for the brooding-place a spot under a bed of nettles, a gap in a hedge, inside a stack of faggots, or similar damp places; all being places nature has pointed out as the most suitable and apparently for this reason: the germ of the egg floats uppermost within and against the shell, in order that it may meet the genial warmth of the breast of the fowl. We must, therefore, in hatching, apply most warmth to that part only; the egg being supplied with only a limited quantity of moisture, is thus arranged to prevent eva-

poration from a large surface, as the egg is only verwarm at the part in contact with the fowl, until the blood-vessels searching nourishment for the embryo, have surrounded the inner surface of the shell, when the whole egg becomes gradually warm, and eventually of an equal temperature. I will reserve the remainder for another early paper.

Agricultural Journal

AND

TRANSACTIONS

OF THE

LOWER CANADA AGRICULTURAL SOCIETY.

MONTREAL, OCTOBER, 1851.

GREAT EXHIBITION AT BROCKVILLE.

BY THE AGRICULTURAL ASSOCIATION OF
UPPER CANADA.

This Exhibition took place the 24th, 25th, and 26th of September, and was very numerously attended, both by natives of Canada, and the United States. The number of animals upon the ground were not so numerous, (with the exception of horses,) as the last year at Niagara, but there were several superior specimens of Durham, Devon, and Ayrshire breeds. We noticed a very fine bull of the Durham breed, belonging to a Mr. Wade, of Cobourg, the best we have seen in America. This gentleman had also several fine cows and heifers of the same breed. There was a very superior Durham cow, owned, we were told, by a Mr. Ferguson, but we considered her too highly fed for breeding, although it was stated she was with calf at the time. The Durham stock were generally too fat for breeding purposes, but they appeared to be of pure blood without any cross or mixture, and pure blood is of great importance to any party wishing to purchase an animal of this or any other breed. An animal of pure breed can be much more certainly obtained in Upper Canada than in Lower Canada. In Western Canada the breeding and management of stock is better understood and more carefully attended to, than in

Eastern Canada, and we believe that it would be very difficult, if not impossible, to find any perfectly pure breed of neat cattle in the latter section of the province.

There were a few excellent animals of the Ayrshire and Devon breeds, but not deserving of any particular notice. We had a commission to look out for a Durham or Ayrshire bull, of a year and half old, and we were surprised to find there was only one of that age at the Exhibition, and there were very few two years old present, but in this latter class we saw two superior Durhams. The show of sheep was not large, and by no means equal to those we saw at Niagara last year. Of South Downs, we did not see more than one lot, and the Exhibitor was awarded all the premiums offered in the several classes for this breed. The Leicester sheep were of good quality but we conceive they were not superior to the same breed in Eastern Canada. Swine were good, but we have a more numerous variety in this section of the province, and some of excellent quality. The show of horses was large, and some very fine animals were exhibited. We conceive, however, that the very large sized horses are not the most suitable for agricultural purposes, generally, in this country, under present circumstances, and our opinion on this point could only be changed by a fair trial upon a farm, between very large sized horses, and those of moderate size and good form. If the result would prove favorable to the large horses, we would then willingly acknowledge our error, but not before. As we have observed, several fine horses were exhibited, and many of them well adapted for agricultural purposes, but we would not prefer those that were very large. The Canadian horse of Lower Canada, of pure breed and good size, is still our favorite for the general purposes of the farmer, above all other horses we have seen in America, and we would recommend that this breed should be carefully preserved and cultivated in Canada

by every means in our power. Agricultural Societies should seek out the best horses of pure blood and have them retained for breed in the several counties. If this is not done, we shall very soon not have one of pure blood in the country. It is impossible to find a horse better adapted for farmers' work in Canada, than a Canadian horse of pure breed, and of good form and size.

We omitted to mention that there were several very fat animals exhibited, that had been stall-fed for the butcher. The owner of one offered to bet £100 that his ox would weigh 2000lbs of beef, hide, and tallow, and we believe this was not the largest ox on the ground. The Implements were generally good and in great variety, but some of them we would not set much value upon for working on the farm. The show of fruit and vegetables was very creditable to the country, and the samples of Fall Wheat was very superior. There was also good samples of Barley. The tent was so crowded where the ladies' work was exhibited we could not get an opportunity of seeing it. We could not but admire the lively interest manifested by all classes at the Exhibition and the most convincing proof of this interest being general, in Upper Canada, was the numerous attendance at Brockville.

We attended at the Court-house, on the evening of Wednesday, the reading of the essay on agriculture, for which a premium was awarded by the Agricultural Association of Upper Canada. The essay was very well written, although we differ with the author in some points, particularly in his unqualified condemnation of summer fallow, and recommendation of thick sowing. We have seen, on our inspection of crops in the county of Montreal, this year, in two or three instances, wheat growing in the same field and same quality of soil, after summer fallow, and after potatoes that had been highly manured and the crop on the fallowed land was infinitely better in every instance than after potatoes. We

deny that exposure of the soil in the process of summer fallowing is calculated to exhaust the nutritive qualities of the soil, but, on the contrary, the frequent stirring of the soil causes it to attract much useful nutriment from the atmosphere. and the free admission of air and light improves its dexture. On this subject, and on thick sowing, we shall reserve any further remarks until the essay is published. The cultivation of the sugar beet, and manufacture of beet sugar was introduced by a Hungarian gentleman now settled in Upper Canada, who has erected an establishment for its manufacture, and exhibited some of the sugar, which was of fair quality. We have in former numbers adverted to this subject, and would strongly recommend the manufacture of this sugar. Canada is very favorable for the cultivation of the beet, and under present circumstances we should endeavor to supply our own wants as much as possible. We shall give in a future number the mode of cultivating and managing the sugar beet, and also the mode of manufacturing sugar from it, as we have the papers by us for some time past.

The worthy President of the Association, — Marks, Esq., delivered an address on Thursday, on the show-ground, which we regret we had not an opportunity of hearing. Several other gentlemen, also, addressed the meeting, on the show-ground and on two evenings at the court-house, of course, on subjects connected with agriculture.

We should not omit stating, that the most liberal accommodation was provided for gentlemen in any way connected with the press while attending the Exhibition. In fact the Agricultural Association of Upper Canada did not leave any thing undone that could be expected of them for the accommodation of persons attending their Exhibition.

We did not wait to see the ploughing-match, but conclude every thing went on well,

The arrangements for the Exhibition were excellent, so far as regards the show-ground. A large space of high and dry land was inclosed with a high fence of boards, and there were ample pens for all the different varieties of stock. The only objection was, that in those pens, inclosed with high boarded fences, it is not so easy for judges to decide on the comparative merit of animals, as if placed in regular stalls, as in England, the animals entered in each class, standing together, without any other being sufficient to mix with them. This is the only way that judges can have a fair opportunity of awarding prizes according to actual merit, and we do not suppose that providing stalls, as at the English Exhibitions, would cost more money than the present plan of pens, nor perhaps so much, as less space would be required. We do not offer this objection, from any desire of finding fault, but only with a view that Agricultural Exhibitions should be managed so as to give the best opportunity of seeing stock, and to enable the judges to make correct awards. It is an evil of considerable magnitude, when premiums are adjudged to animals that are not the most deserving in their class, as it is calculated to lead farmers into error who depend upon such awards, for making a selection of stock.

REPORT OF THE INSPECTORS OF CROPS
IN THE COUNTY OF MONTREAL, JULY
1851.

The undersigned having been requested by the County of Montreal Agricultural Society, to inspect the crops of the several competitors for premiums in the County of Montreal, proceeded on that duty on Monday the 28th of July, and made their award on Friday the 1st day of August, which award has already been published.

The crops generally upon the Island of Montreal, particularly wheat, potatoes, and hay, were better than usual, when they made their inspection. Early sown wheat had suffered some damage from the rava-

ges of its usual enemy, the wheat fly, but the grains which remained in the ears were well filled, so as to compensate in some degree for what was destroyed. The late sown wheat was also injured by the same insect, and indication of rust was beginning to appear in many places. The success of the wheat crop, and indeed of all other crops, must mainly depend upon the state of the weather in August and September for maturing and harvesting them.

The potatoe planting this year has been very extensive, some farmers having from 30 to 40 acres, and the crop was of the most luxuriant appearance generally. We conceive it proper to mention particularly, the crop of Mr. Thos. Harland, of St. Laurent, consisting of 36 acres, which we found to be exceedingly well cultivated, perfectly clean, and promising an abundant produce. Perhaps in North America there could not be found with any one farmer, a field of the same extent, so well managed, and this man is a rent-paying farmer. We were delighted to observe that turnips, mangel-wurtzel and carrots are coming into general cultivation, with both English and Canadian farmers—on a small scale it is true, but there is no doubt their cultivation will rapidly increase, when farmers discover the value of roots for feeding their stock and cleaning the land. We also found much to our satisfaction, that sowing of clover seed is extending most astonishingly within the last five years. These are unmistakable indications of improvement. There is a remarkable deficiency in the quantity of land under barley, and this circumstance is unfavourable to the farmers who should always endeavour to have a variety of crops the best suited to the soil and climate. The early sowing of oats, would also be very desirable, as late crops of this grain do not generally turn out well. Flax is not sown extensively, but there was sufficient to prove that the soil and climate are favourable for its growth. The hay crop although unusually heavy,

was suffering much injury in the process of harvesting when on the inspection, and this produce is not likely to be housed in good condition this year.

The undersigned are sorry to have to report that the weeding of the crops is not carefully attended to generally, and that weeds are allowed to mature their seeds in the pastures, waste places, along fences, drains, roads, and on public works, to the great detriment of Agriculture, and causing a serious damage to those farmers who endeavour to keep their farms clean.

We had an opportunity of seeing several well managed farms in the course of our inspection, and many good crops not entered for competition. We observed upon the farm of Mr. Smith of Waterloo, that he had taken the high banks of the drains, and mixed them with manure for compost, he was also summer fallowing some land which he assured us answered an exceedingly good purpose as a means of improvement.

Mr. Penner's farm at Lachine was well cropped, principally with wheat and hops and the good effects of thorough draining were quite manifest. This draining was made with small poles, instead of tiles or stone, and they have now been in use from ten to fifteen years, and act well, up to this time. Mr. Penner has also some beautiful thorn fences which succeed perfectly well.

We wish particularly to remark, that twenty years ago, Petite Côte near Montreal, was nearly a wilderness, but now it is generally settled and under excellent cultivation. We had an opportunity of knowing the vast improvement that has been effected in this settlement, and we have now awarded the first prize for well managed farms to Mr. John Drummond, residing at this place, who has undoubtedly a pattern farm, and fine buildings, and there are several other farms there that deserve commendation. John Dodds, Esq., of Petite Côte, President of the County of Montreal Agricultural Society, has made

extraordinary improvement on his farm since he purchased it, but declined competing for any prize as he was President of the Society. He accompanied us throughout our inspection, and paid us every possible attention, without attempting to interfere with us in the slightest degree. We cannot forego the opportunity of highly commending the conduct of Mr. Dodds, as President of an Agricultural Society. If any parties should doubt the awards we have made in regard to well managed farms, they may go and visit the farms that have been awarded prizes, and we can assure them the visit will well repay the trouble of making it. There are several circumstances connected with what constitutes a well managed farm, that is not generally understood by the public who do not take the trouble to examine minutely into the matter. By visiting the farms of successful and unsuccessful competition these circumstances will be perfectly understood. A farm entitled to a prize in this class, we conceive should have all the cultivated crops upon it of excellent quality, the land well drained, perfectly clean of all weeds, the fences in good order, and all necessary work executed in the best manner. This was the rule we adopted, and we awarded prizes to those who come nearest to this standard of excellence, and now let others go and see for themselves. We should not be doing our duty, were we to omit our strongest commendation of a Canadian farmer residing at Pointe Claire, Louis Desjardins by name. This farmer only has possession of his farm about 6 or 7 years, and he has done wonders, improved the whole of it, about 150 arpents and last Spring he sowed no less than 90 lbs. of Dutch clover seed, with other grass seeds. He had a field when we were there of over twenty arpents with all the stone taken up that would interfere with its cultivation and was carting them away to make fences, and had eight or ten heaps of manure placed in different situations in the field, and covered with

soil, which he proposed to put on the land and plough it this Fall. He had also constructed some under drains, and his industry and spirit for improvement altogether deserved the greatest praise and shows what Canadian farmers can do when they wish it. This example is calculated to produce a great amount of good, much more good that could be expected from the example of an old country farmer, and if the Canadians would only endeavour to follow this example we should soon see a great change in the agriculture of the country. We visited with the Rev. Mr. St. Germain, Curé of St. Laurent, the establishment of the Rev. Mr. Regi at St. Laurent. There is a few arpents of land which it is proposed to cultivate under a good system. He raised last year 9 bushels of cloverseed off about 2 arpents of land. There is a fine building for a school, and already several scholars. We believe this establishment is calculated to do much good—and it is situated in a parish where improvement is much required. A school and small farm attached to be cultivated properly by the scholars would be productive of much good to the rural population in the neighbourhood.

Upon many farms that come under our notice, the pastures are poor, and the stock upon them are necessarily poor and unprofitable and these evils could easily be remedied, and without much additional expenditure. Better pastures, and a more careful attention to the breeding and feeding of stock would be the remedy. As regards crops, better draining, better ploughing, the use of more manure, summer following, and cleaning the land, would much improve them, always providing that weeds were not allowed to grow with cultivated plants. All these matters must be attended to, to insure good and profitable farming. In conclusion, we would observe, that although agriculture is not in such a forward state as would be desirable, there is no doubt

that improvement is progressing, and would now be much more advanced, were it not for the disadvantage that farmers have been subjected to, by the potatoe disease, and the ravages of the wheat-fly. The introduction of new seed wheat, might in some degree remedy the latter evil.

Respectfully submitted.

ALPH. KEMPTON.

J. QUESNEL.

WM. EVANS.

August, 1851.

AGRICULTURAL REPORT FOR SEPTEMBER.

The month was changable, but upon the whole, favorable both for maturing and harvesting late crops. There were a few days very hot that must have had a very beneficial effect upon late oats, not previously ripe. The result of the harvest this year, in regard to the oat crop in particular, should convince farmers how necessary it is to sow oats as early as possible. Those that were sown late this year, are generally a very inferior crop, in some situations injured by frost, and in very many instances by rust or mildew, while the early sown was free from both of these casualties, and proved a very fair crop. The best oats we have ever had in Canada, was from April sowing, and sown early in that month. The average return of the wheat crop this year it is difficult to estimate with any pretensions to accuracy. In appearance while growing, we have not seen it more promising for several years, but we fear that it will not yield any thing near the return that might have been anticipated in the early stages of its growth. From a long experience, we have seldom seen a large yield of wheat after such a moist and cold season as we had this year. The fly this year has injured both early and late sown crops, although the damage to either was not so extensive as we have often seen it. Rust or mildew has also prevailed to a considerable extent in the

late sown wheat, and there is now no doubt, that the Black Sea wheat we have at present, is not proof against this disease. It is of the first importance to the country generally, that new seed wheat should be imported, or else there will be little encouragement to grow wheat, subject as it is to the ravages of the fly, and to rust. Barley, unfortunately, was not sown this year to any great extent. Where it was sown, the crop is good, and will pay the farmer well, there being a good price. There is a demand in this market for barley for the United States, and this is a demand likely to continue. There is every reasonable encouragement to farmers to cultivate this grain, even though they should be pledged against the use of beer and spirits. It is a productive grain, suitable for the soil and climate, and one of the best articles of food for fattening animals. Peas have generally been a fair crop, when sown early as they always should be. Indian corn has not been planted to a great extent this year, and it is not in our power to give any idea of what the crop was, such a season as the past was not favorable for it. Potatoes have had the plague spot upon the vines at an earlier period than usual this year, (the 1st of August,) and the tops throughout the country were completely blighted before the end of August. The growth of the tubers must have been checked long before they were at their full size, and the crop cannot be near an average. It is impossible at present to conjecture how the potatoes will keep during the winter. They should be carefully stored and not put together in large quantities, or in cellars that are too warm. Mixing charcoal, or dry saw dust with them, would help to preserve them. The potato disease is one that sets at naught all theoretical speculations, and we know as little of it now, as we ever did. The vines have withered this year in every situation, and under every variety of cultivation. Early planting, we believe to be the best remedy in our power, as the tubers may then have

a chance of arriving at a reasonable state of maturity before they are checked by disease. This would give an opportunity of sun-drying the crop before they would be stored, and perhaps this would be the most certain mode of preserving them for the winter. Farmers should prepare the land this fall for their potatoes, in order that they would be able to plant in spring as soon as the land would be fit to work. Careful attention to all these matters is very necessary to successful farming, and we may be able to overcome many difficulties by experience, study, and careful attention to every circumstance connected with our occupation as farmers. We may reasonably have confidence in our Creator that there is a remedy for every evil, if we apply ourselves properly to discover it, and if it should happen that we would be unable to cultivate the potato, we shall be able to find a substitute. Our fore-fathers were able to live without it for thousands of years, and did not know the want of it. We may be able to find means to check the disease, and if not, we have full confidence that we shall discover a good substitute. Turnips, carrots and mangel wurzel have succeeded admirably this year, and will yield an immense produce in proportion to the land they occupy. We are convinced that there are ten acres sown this year of these roots for one sown three years ago. The hay crop was a large one this year, but it has been much injured, both before and during the process of saving. The price at present is very low, from 20s. to 25s. the 100 bundles. We have never seen grass land continue so green throughout the season as it did this year, a proof that the season must have been unusually moist. The temperature also was very low, with the exception of a few days. The result of the harvest altogether will, however, we believe, be a larger amount of grain than last year, and if the potatoes, when taken up, should continue sound, there will be a large quantity still remaining, notwithstanding the early

appearance of blight, and check in the growth of the tubers, as there was a very large quantity planted this year. The product of orchards is less than we have seen it for many years, not so much from the ravages of the caterpillar, as from the season being unfavorable for fruit. The supply of cheese and butter is abundant and we are glad to be able to report the great improvement in quality, and increase in quantity of Canadian cheese. There is no doubt that cheese is now manufactured in Canada equal, if not superior in quality, to any made in North America. The quality of butter, and the mode of preserving and packing it is much improved. Although our progress hitherto in agricultural improvement has been slow, we hope there is now an indication that we shall not be liable to this reproach any longer, but that we shall be able to make up fully for lost time. Farming may not be a very profitable business, but it will be less so when a good system is not followed. Prices of Agricultural produce are low in England, and yet we received a report by the last mail of the produce of a farm in England belonging to Sir John Conray, near Reading, containing about 326 acres, yielding an annual gross produce in cattle and corn, of the value of £6000, sterling. We shall give this report in a future number. The rains we have had lately, will have brought the land into a good state for ploughing, and farmers would do well to make every exertion to go on with this work while the weather is fine and the days are long. Where manure can be had we would recommend that it should be ploughed in this fall rather than in spring. Draining should be attended to, particularly in arable lands, as no good crops can be produced where the land is not sufficiently dry.

29 September, 1851.

MONTREAL COUNTRY CATTLE SHOW.

Although the attendance was not so numerous as we might expect to see it in

one of the first counties in Lower Canada, there were some excellent stock exhibited. There was a fair opportunity, perhaps, of seeing the horses, sheep, and swine, but for the neat cattle, we cannot conceive it possible for the judges to make a correct award. Neat cattle of every variety and age, are scattered over the ground without any separation or classification. This mixture of all sorts, ages, and sizes, is very much against the appearance of the animals. There were very good cows, heifers, and calves on the ground, but how the comparative merit of each could have been determined, we cannot understand. If each class of stock had been placed together, a visitor to the show would be able to see at once several excellent animals, and the judges would be able to make comparisons without any difficulty. Of course there must be preparation made for exhibiting stock properly at cattle shows, but if this was done, and it would not be very expensive, farmers might place their stock in their proper places, in each class in which they were entered. This arrangement would also prevent animals of very inferior quality from being brought in droves to cattle shows. The utility of these exhibitions will be greatly promoted by judicious arrangement. We have no object in offering these remarks, except to induce more attention to the arrangement at cattle shows, in order that they might be more useful, and give a better idea of the real state of the farming stock of the country. It would be worth a journey to the British Isles, to see the arrangement at their great cattle shows. It is very absurd to drive animals to a cattle show as we would to a common. All animals brought to these places should be under control, so that they could be secured in their proper class. It should rather be the object of competitors to show animals to the best advantage, even though it should be some additional trouble, than to take them in droves to those exhibitions, as if merely for "prize catching." The

show of brood mare's and colts was very good, but the stallions were not of superior excellence generally, according to our humble judgment.

PROVINCIAL PLOUGHING MATCHES.

The Ploughing Match for the District of Montreal is to take place at Varennes on the farm of David Laurent, Esq., on the 22nd day of October. For particulars we refer to the advertisement. The Ploughing Match for the District of Quebec will take place in the neighbourhood of that city on the 15th day of October, on the farm of Wm. Bell, Esq., situated on the bank of the river St. Charles, about two miles from Quebec. The Directors of the Lower Canada Agricultural Society have established the same rules and conditions for both Ploughing Matches.

At the "Grand National Cattle show of the Royal Agricultural Improvement Society of Ireland" in August last, the Short-Horned Bull, "Bamboo," the property of the Hon. Mr. Nugent of Palas, in the county of Galway, was awarded thirty sovereigns as the best Bull in his class; a First Class Medal, as best in his section; the gold medal, as best of all Bulls; and the Purcell Challenge Cup as the best animal in the show yard. Mr. Witherell's bull, the "Earl of Scarborough," that obtained the first prize at the Great Cattle Show of the Royal English Agricultural Society at Windsor, last July, was exhibited against Bamboo, and has been beaten. The Hon. Mr. Nugent's family in the County of Galway has been long celebrated for keeping fine cattle. A picture of the Bull, Bamboo, can be seen at the Rooms of the Lower Canada Agricultural Society. There was a Tile chimney erected by Williams of Bedford, England, which obtained a prize at this Cattle Show, that is said to be capable, with a man and a boy, of turn-

ing out 5,000 tiles in a day. Such a machine would be worth having in Canada.

We may include amongst the exhibitors at Brockville, a female with something like what is termed the "Bloomer dress." It certainly attracted our attention by its absurd novelty, but it did not excite in the slightest degree our admiration, nor, we believe, that of any one upon the ground. The wives and daughters of Canadian farmers have too much good taste and good sense ever to adopt this Turkish costume, and we were glad to perceive that the female who wore the dress at the Exhibition was not an inhabitant of Canada. The present age is remarkable for the introduction of useful improvements, but the "Bloomer dress," should it come into use, would indeed be an exception. The public taste is very changeable in regard to dress, but there has not been for some centuries any remarkable departure from the general style of female attire until this "Notion" has appeared. The dress in question in its best style, is only suitable for independent young Ladies, who can do as they please. We should propose that husbands or parents who allow their wives or daughters to adopt the "Bloomer costume" should themselves be obliged to wear the "petticoat."

We have seen the first number of the "Canadian Farmer" and although we have every reason to suppose that it was got up in opposition to this Journal, if its object is to advance agricultural improvement, we wish it all possible success. As to the declaration of the Rev. Editor in his first Editorial:—"if we should happen to come into collision with other publications of a similar character, we ask for no quarter, and shall give none." We can assure him that so far as we are concerned we shall give him without asking, all the "quarter" that is possible for him to desire, and shall not claim any from him in return. He

may "quarter" and mangle us in every way and shape that he may feel disposed. We have determined, that whatever be the provocation, we shall not notice or reply. The object of this Journal is now, and always has been, to endeavour to promote the improvement of agriculture in Canada, and advocate the interests of farmers, not to carry on a war in words, that would be worse than useless, with other publications. Any proposition or recommendation in reference to agriculture which we may publish, will be submitted to our agricultural friends in full confidence of their favourable disposition to pardon any errors they may discover.

We have received a most useful and interesting Meteorological Report for the past six months from Dr. Smallwood, M.D. St. Martin, for which we are much obliged, and shall publish it in the next number of the Journal. It was too late for the present number.

We copy a Lecture by Professor Way, on the use of lime, delivered before the Royal English Agricultural Society. It appears from this Lecture, that too large a quantity of lime applied at once to the soil, proves ultimately injurious, but that applied in small quantities, it is extremely beneficial. We have ever been of this opinion, and it affords us much satisfaction to be confirmed in this opinion by such respectable authority. The judicious use of lime in Canada would unquestionably be productive of great benefit to the farmer. The expense is the objection, but we cannot see any reasonable cause, why lime should cost much more here than in the British Isles. The general construction of the lime-kiln here is very defective, and, consequently, consumes more fuel to burn the lime, than would be required in better formed kilns. Lime is a necessary application to arable soil in this country, and we should do all in our power to make it procurable at a moderate price by the farmer. With

abundance of good limestone, fuel, and unequaled means of communication by water, we cannot understand why we should not have abundance of lime at a moderate price for agricultural purposes.

We beg to refer the readers of this Journal to the article on flax, copied from the "Mark Lane Express." The cultivation of flax should be encouraged in Canada, the soil and climate being very favorable for its growth. In a former number we stated how difficult it was to obtain clean and unmixed seed. We know by experience, that there is no clean seed to be had of American growth. Seed should be regularly imported from Russia or Holland, but the former is generally considered the best.

BAYNE'S PANORAMA OF A VOYAGE TO EUROPE.

The most delightful and instructive Panorama that has ever been exhibited in Montreal and we are not surprised that it continues to attract a great number of spectators every evening. It is admitted by all who have seen the originals of the beautiful picture, that it is a most truthful representation, and we can vouch for this, so far as we have had an opportunity of seeing them. For both young and old, the Panorama offers the most sensible and interesting entertainment and instruction that has been accessible to the inhabitants of Montreal for a long time—and we hope the proprietor will meet with all the encouragement which he so richly merits. The price of admission is so very low, that it can scarcely prevent any one from seeing the Panorama, and we believe thousands would go to see it, if they were aware of the treat they would enjoy.

With pleasure we give insertion to the letter of our highly respected correspondent, P. C. L. Dubois, Esq., of Grand Baie, Saguenay; and we also beg to submit our opinion in reply to his inquiries. When

the Directors of an Agricultural Society at a meeting *duly convened*, adopt Resolutions, for the distribution of Premiums, and determine how they are to be competed for, we do not think that any subsequent meeting can make any change for that year,—and it would be very unreasonable if they could, provided the first meeting was a regular one, lawfully assembled. We have constantly advocated the principle, that competitors, who did not make their living by farming, should be content with honorary rewards, such as Medals, Diplomas, &c.,—except for stallions, bulls, rams, and boars, kept for breeding, and allowed to serve at a moderate rate. For these animals money premiums should be allowed, whoever were the competitors, as animals kept under these circumstances could not fail to be an advantage to farmers generally. In offering prizes for well managed farms, we have always considered that successful competitors for these prizes should not be allowed to obtain any other premium for crops growing upon the farm that same year; but we do not conceive that they should be disqualified from competing at Cattle Shows, and obtaining prizes if entitled to them.

An Agricultural Society, subscribing all their own funds, may adopt what Regulations they think proper for the distribution of those funds, but where three-fourths of the funds of Agricultural Societies are obtained from Legislative Grants, for the improvement of agriculture, we conceive that those funds should be employed so as to produce improvement where it was most required. Those who do not depend upon farming for their support, might be content with honorary rewards, without making any great sacrifice.

To the Editor of the Agricultural Journal.

SIR.—Would it be out of the question to ask your opinion upon several points in regard to Agricultural Societies. If this would suit your convenience would you have the goodness to favor us with a reply through

the Agricultural Journal or privately as you may judge best.

As president of the Agricultural Society in the second division of the County of Saguenay, in March last, I notified the members of Committee of Management of a meeting, for revising the Rules and adding others, as might seem best for the interests of the Society. Several of the members did not appear;—however there was a sufficient number present to make good the proceedings.

It was then proposed and unanimously resolved that no prizes should be awarded except to those who lived exclusively by Agriculture—and that professional and commercial gentlemen should have the right of being mentioned on the honorary list. Another resolution proposed and seconded as the first, was that those who should receive a prize for the best managed farm should not be admitted to compete for the prizes offered for animals and other products.

At a subsequent meeting to finish the revision of the rules, the members composing the first meeting not being present, there were, however, enough to form a quorum—it was resolved to reject the resolutions of the first meeting alleging that it would be unfair to deprive any one of the right of competition, that it would arrest the impulse already given to improvements to prevent the competition by every one for the first and highest prizes,

Now, Sir, firstly, I should wish to know if one part of the members of Committee of Management, have the right of abolishing the rules made and passed in and by a meeting duly convoked and formed.

Secondly, if it be possible to make rules in such a manner that professional and commercial gentlemen should be able to obtain all the highest prizes.

Thirdly, after having set apart a good number of prizes for the best farms, that is to say, for the best managed under all circumstances, is it just that the successful competitors should again be permitted to compete for prizes offered for animals and other produce.

If then, Sir, you think that the solution of these questions would be of advantage for Agricultural Societies in general, you may

adduce from them what you consider best.

I am, Sir, with the utmost respect,

Your humble Servant,

P. C. L. DUVOIS.

Grande Bay, Saguenay,
30th July, 1851.

To the Editor of the Agricultural Journal.

SIR.—I am not an agriculturist; however, I may say, that whatever concerns the Agriculture of Canada is to me of the deepest interest.

In several Works I have met with upon Agriculture in other countries, I have obtained some general information; but I am always uncertain if this knowledge be applicable to our country. Thus I read that no cultivation could be considered such as it ought to be in which a wise rotation of green crops was not made to succeed that of grain, that the cultivation of potatoes, carrots, beet root turnips, &c., was indispensable in a well understood Agricultural economy. These maxims I meet with every where and the import of which may be thus stated:

No useful cultivation without manure,

No manure without cattle,

No cattle without green crops

Conclusion arrived at it is necessary for us to have green crops

I see with pleasure an article in your Journal for July upon rota baga.

You give the produce and cost of cultivation of an acre in Scotland; but, as our farmers are not able to make the comparison between Scotland and their own country, your article will be lost to them if you do not give the prices in the currency of this country.

I am convinced that, from your long experience as a farmer, you will very readily make this calculation. For instance, it would be necessary to say distinctly how much labor and harrowing would be required in Canada—how much the grain would cost—how many days, and what means, it would require for weeding and cleaning the ground.—With this data given, they could calculate for themselves what the cultivation of an acre would cost in Canada.

It would be requisite also to inform them, if there are to be found in this country instruments for abridging the labor of these operations;—for the greatest obstacle to be met with in this country, in the cultivation of

green crops will ever arise from the great expense of hand labor.

I believe, Sir, that the greatest service which any writer could render our farmers would be to induce them to adopt this new mode of cultivation.

I am strongly convinced th tmeans might be found to render our Agricultural Societies much more useful than they are at present. It is well known, that the cultivation of cereales,—now become a habit of mere routine among our farmers,—will never be lost in the country. Why encourage it then? the fault of our farming is the abuse of the cultivation of cereales. And still prizes are given to encourage them to continue. Is this not an absurd system?

It is now universally admitted, that the basis of all good cultivation is the rearing of green crops. Then why-not give the first prizes for the encouragement of this kind of agricultural produce?

When this point is gained all the rest will follow, as an inevitable consequence.

Your remarks upon this head must carry much more weight than the observations of a correspondent; and your voice raised in favor of this system in the Society, of which you are Secretary, would be the echo of your writings. The example thus given, would naturally diffuse its influence every where; and no doubt, under this system, agriculture would make immense progress; and be the means of enriching this, as it has many other countries.

I have the honor to be, Sir,

Your obedient servant,

AN AMATEUR.

Montreal, September 10, 1851.

In reply to our worthy correspondent, we beg to state, that beets or mangel-wurzel are an excellent crop to cultivate, provided the roots are preserved properly, and employed judiciously in feeding the farmer's stock. An acre of land, properly cultivated, will yield a large produce, perhaps, twenty tons weight, or more. The land intended for mangel-wurzel, should be ploughed the previous fall, and if the farmer has the manure, it would be well to plough it in at the first ploughing. This will keep the soil open, but it should be

well drained before the winter commences. By applying the manure in this way, it enables the farmer to sow the seed early in spring, which is a great advantage. The land, although manured in the fall, requires ploughing and drilling again in the spring, before the seed is sown. The manure may of course be applied in the spring, if not convenient to apply it before, but then it will have to be put in the drills, as for turnip seed. The expense of cultivating an arpent of mangel-wurzel is not greater than for potatoes, and the seed for the mangel-wurzel costs only from three to four shillings, when the seed for potatoes may cost six or eight dollars. We do not recommend that mangel-wurzel should be grown in preference to other root crops, but there should be a due proportion of them grown, as they are good for milch cows, and keep well. Carrots and parsnips should also be cultivated. Any of these root crops can be cultivated for less than potatoes, including the taking up and storing. Grain crops cannot be profitably cultivated, unless in connection with and in proportion to green crops or summer follow. A due proportion of stock is necessary on every farm to supply manure, unless when farms are situated near towns, where manure can be had to purchase at a moderate price.

The implements required for cultivating root crops, are very simple and not expensive. Those used for potatoes will answer for all other root crops. When farmers are accustomed to their cultivation, they will by degrees discover what implements may be necessary for them, to enable them to do the work in the best manner, and at the least expense. We shall refer to this subject again in our next, and we shall be glad to hear from our correspondent when convenient for him to write, as we believe he feels interested in the prosperity of agriculture.

The following extract from the reported proceedings of the Council of the Royal

English Agricultural Society, will, we have no doubt, be found interesting and instructive to agriculturists in Canada. In forming Rules and Regulations for Cattle Shows, with us, the Rules adopted by the English Society will be very proper for adoption here. Animals kept for breeding should not be over fed, whether male or female. They should be maintained constantly in good condition, but if over fed, they will not be in the best state for breeding. This rule applies to every species and variety of domestic animals. It is quite possible to over fatten animals for the butcher, and when this is done, it seldom pays the farmer; nor is extremely fat meat the most profitable for ordinary family use. The practice of over feeding for the English markets is not so prevalent now as it was a few years ago. Even the most laborious classes will now object to buy meat that is too fat. By all means, let us have well fattened animals, but we need not have them fattened to such a degree as to be only fit for the chandler.

One of the earliest objects of the Royal Agricultural Society of England having been to encourage improvements in the quality of the breed of live-stock for agricultural purposes, the Council have constantly had under their consideration the best means of promoting this desirable object, in contradistinction to the express object of the Smithfield Club, which is stated to be—"the supply of the cattle markets of Smithfield and other places with the cheapest and best meat;" the animals exhibited at the Christmas shows of the Club not being required to be either of pure breed or qualified by circumstance for the production of their species, or to be restricted in their mode of feeding. The following instructions have accordingly been constantly included prominently among those given to the judges of stock of the Royal Agricultural Society at its country meetings:—

"The Council desire the attention of the judges to be most particularly called to the following instruction for their guidance, namely:

"1. As the object of the Society in giving the prizes for neat cattle, sheep, and pigs, is to promote improvement in *breeding* stock, the judges, in making their award, will be instructed not to take into their consideration the present value to the butcher of animals exhibited, but to decide accor-

ding to their relative merits for the purpose of breeding.

"2. In the classes for stallions, mares, and fillies, the judges, in awarding the prizes, will be instructed in addition to symmetry, to take activity and strength into their consideration."

As complaints have, however, been continued to be made to the Council, that some of the animals to which the Society's prizes have been from time to time awarded have been rather "dressed-up" as fat stock in the results of high-feeding, than exhibited in those natural developments of breed and sound condition which ought to distinguish animals intended to promote improvements in the breeding-stock of the country, the Council have this year still further pressed upon the judges the responsibility of this distinction in their awards of the Society's prizes. In their report to the last general meeting they referred still more strongly to the subject in the following passage:—

"The Council have taken measures for obtaining a greater number of nominations from which to select the Judges for the Country Meetings; but they still feel the imperfection of all plans hitherto adopted for their appointment. The Council duly appreciate the great importance of a strict and impartial adjudication of the Society's prizes, by men not only disinterested in themselves, but fully qualified by their abilities and experience for the arduous task confided to them; and the Council will esteem it a favor if the Members of the Society at large will from time to time transmit to them any suggestions that may tend to promote this desirable object, and essentially to give effect to that competition for excellence which the Society, by its premiums, evinces so great a wish to excite. They have already referred it to the Judges, as part of their duty, to ascertain and report to the Council any failure in the due shearing of the sheep, or any excess in the market condition of the animals inconsistent with their character as breeding stock. They consider that the higher the character of their Judges becomes, the more powerfully will they be able to aid the Council in repressing many of the abuses alleged to take place in the competition for prizes. They also hope that the time is not far distant when the judgments given in the Show Yard in the case of Live Stock will be founded on well-defined and acknowledged principles, having reference, in each class, to some assigned standard of excellence; and that these judgments, although formed on less distinct and constant data than in the case of implements, may gradually approximate in some degree to uniform and consistent results, that may prove, like those in the Implement Yard, satisfactory at the same time both to the Judges and competing

exhibitors; and thus tend to establish those points of form, development, and quality which constitute perfection of breed in the different classes of animals adapted for agricultural purposes."

In order, too, that no false estimate might be made by the Judges in distinguishing between those developments of condition which result naturally from the healthy genial tone and finely-bred qualities of an animal, and that mere fatness which is occasioned by special feeding, the Council included in each of the letters of appointment to the Judges for the Windsor Meeting the following notification:—

"In order to aid the Judges in carrying out the wishes of the Council, in reference to the healthy condition of the animals as breeding stock, and to their soundness and freedom from infectious or contagious disease, the Council have appointed Professor Simonds, the Veterinary Inspector of the Society, to act as Referee to the Judges at the Windsor Meeting."

The Council have already received from Professor Simonds some interesting information connected with his general inspection of the animals in the Show-yard, and his particular examination given of those points to which his attention was specially drawn by such of the Judges as availed themselves of his professional opinion; which they have reserved for consideration at a future meeting.

Mr. Fisher Hobbs gave notice of his intention to move the following resolution at the Special Council in December, when the prizes for Live Stock at the next Country Meeting shall, agreeably with the by-laws, be taken into consideration.—

"That in future, before the Judges sign their awards, Professor Simonds shall be directed to make an accurate inspection and investigation of the animals to which the Judges intend to give the Prizes of the Society."

Imperfect Animals—Mr. Matthew Smith, of Long-brow, near Hexham, having addressed a letter to Prof. Simonds, as the Veterinary-Inspector of the Society, inquiring whether he had certified that one of the bulls to which a prize had been awarded at the Windsor Meeting, and which had an imperfection as a breeding animal, could be considered a safe Stock-getter: this letter was laid before the Council. Prof. Simonds stated that he had inspected the bull referred to, and remarked the circumstance to which Mr. Smith made allusion, but not having been called in as referee by the Judges of that division, he had not been required to give any professional opinion. At the same time, he might remark that nature had with wise foresight endowed animals with duplicates of some of the most important organs of the body, as, for instance,

in the case of the eye and the ear. On the particular point to which Mr. Smith referred, he considered, that although the circumstance in every such case ought to be well examined, the particular bull to which the prize had been awarded at Windsor, was not essentially deficient for the purposes required.

HOW FLAX IS TO BE HARVESTED.

[We have been kindly favoured by Mr. Thomas Hughes, of Clonmel, with "directions for the proper management of the crop." We extract the following, this week, for the information of a correspondent, whose note we published last week. We shall give the paper in full in a future publication.—Ed. M. L. E.]

THE COURTRAI SYSTEM.—This is the mode in which flax should be saved for steeping on Schenck's hot-water system. It requires to be very carefully done, as inattention will reduce the value of the straw, and yield inferior fibre. The flax stems should be put together in bunches, about one-half larger than a man can grasp in one hand, spread a little, and laid on the ground in rows after each puller; the bunches laid with tops and roots alternately, which prevents the seed-bolls from sticking to each other in lifting. It should be stooked as soon after pulling as possible, and never allowed to remain over night unstooked, except in settled weather. The stooking should go on at the same time as the pulling, as, if flax is allowed to get rain, while on the ground, its colour is injured. A well-trained stooker will put up the produce of a statute acre, or more, in good order, in a day, with two boys or girls to hand him the bunches. The flax should be handed with the tops to the stooker. The handfuls, as pulled, are set up, resting against each other—the roots ends spread well out, and the tops joining like the letter A. The stooks are made eight or ten feet long, and a short strap keeps the ends firm. The stooks should be very narrow on the top, and thinly put up, so that they may get the full benefit of the weather. In six or eight days, at most, after being pulled, the flax should be ready for tying up in sheaves of the size of corn-sheaves. It is then ricked, and allowed to stand in the field until the seed is dry enough for stacking. To build the rick, lay two poles parallel on the ground, about a foot asunder, with a strong upright pole at each end. The flax is then built, the length of a sheaf in thickness or breadth. The bottom poles should be laid north and south, so that the sun shall get at both sides of the rick during the day. In building, the sheaves should be laid tops and roots alternately, built, seven to eight feet high, and finished on the top by laying a single row of sheaves length-wise, or across the others, and then another row

as before, but with the tops all the same way, which gives a slope to throw off rain, and finished by putting on the top a little straw, tied with a rope. In this way, if properly built, it will stand secure for months. It can be stacked at leisure, or put in a barn, the seed taken off during the winter and the flax steeped in the following May; or it may be kept stacked, without receiving any injury, for two or three years, or even longer.

NOTICE.

THE Directors of the Lower Canada Agricultural Society are requested to meet at their Rooms in this City, on Friday the 10th day of October instant, at 11 o'clock, A. M., on important business of the Society.

By order of the Executive Committee.

WM. EVANS,

Secretary and Treasurer.

L. C. A. S.

Montreal, 1st October, 1851.

AGRICULTURAL SOCIETY.

Office of the Society, at No. 25, Notre Dame Street, Montreal, opposite the CITY HALL, and over the SEED STORE of Mr. George Shepherd, Seedsman of the Society, where the Secretary of the Society, WM. EVANS, Esq., is in attendance daily, from 10 to 1 o'clock.

All communications intended for publication in the Agricultural Journal to be addressed, (post paid) to the Editor, Wm. Evans, Esq., Secretary of the Lower Canada Agricultural Society.

LOWER CANADA

AGRICULTURAL SOCIETY.

Provincial Ploughing Matches.

THE Lower Canada Agricultural Society have appropriated One Hundred Pounds, currency, for two PROVINCIAL PLOUGHING MATCHES, one to be held in the District of Quebec, under the management of the Agricultural Society of the County of Quebec, and one to be held in the District of Montreal.

The Ploughing Match for the District of Montreal will take place at VARENNES, on the 22nd day of October next, on the Farm of DAVID LAURENT, Esq.

Conditions:

That these Ploughing Matches be open to all Competitors residing in Lower Canada, subject however to the following Conditions:—

That there shall be two classes of prizes—one open to Canadians of French origin only, the other open to all competitors residing in Lower Canada.

That all descriptions of ploughs be allowed to compete, draughted by either horses, oxen, or by both.

That the land for the Ploughing Match be regularly measured, and marked out into equal sized lots, as nearly as possible, and to be numbered, and each competitor to draw lots for these numbers, and plough the lot, the number of which he may happen to draw.

That the time allowed to plough one Arpent be eight hours, and in that proportion for any less quantity of land; any competitor who shall not have finished ploughing the land assigned to him at the expiration of that time shall be disqualified.

That any competitor who shall stop his plough to settle the furrow-slice with his hands or feet shall be disqualified; but they may settle the furrow-slice with their feet as the plough works, without stopping the horses.

There shall be three Judges appointed for each class, but they shall not go upon the land until the work is completed, or the time is expired that is allowed for ploughing.

That the Judges shall place a ticket with the prize awarded in each lot of the successful competitors, and also mark in the list of competitors each number to which they award prizes.

That no person shall be allowed to walk over the ploughed land until the Judges shall have reported their award of prizes.

Class 1st.—Open to all Competitors residing in Lower Canada.

To the Ploughman who shall plough the portion of land assigned to him in the best manner, and in the shortest space of time,\$16

To the 2nd best, do. do.....	14
To the 3d best, do. do.....	12
To the 4th best, do. do.....	10
To the 5th best, do. do.....	9
To the 6th best, do. do.....	8
To the 7th best, do. do.....	7
To the 8th best, do. do.....	6
To the 9th best, do. do.....	5
To the 10th best, do. do.....	4

Class 2nd.—Open to Competitors of French Canadian origin only.

To the Ploughman who shall plough the portion of land assigned to him in the best manner, and in the shortest space of time,\$16

To the 2nd best, do. do.....	14
To the 3d best, do. do.....	12
To the 4th best, do. do.....	10
To the 5th best, do. do.....	9
To the 6th best, do. do.....	8
To the 7th best, do. do.....	7
To the 8th best, do. do.....	6
To the 9th best, do. do.....	5
To the 10th best, do. do.....	4

Ploughs to be on the ground at Nine o'clock.—Work to commence at Ten o'clock, A.M.

Steamer, *St. Mary*, will leave the Current St. Mary, at SEVEN o'clock in the morning, on WEDNESDAY, the 22nd of October, for Varennes, stopping at Longueuil, and at Boucherville, to take passengers—1s. 3d. for a man, two horses and plough, to and from Varennes the same day; 7½d. for a foot passenger.

By order of the Committee for the Ploughing Matches,

WILLIAM EVANS,
Sec. & Treas. L.C.A.S.

Montreal, 12th September, 1851.

DESMARTEAU, MERCHANT & Co., importers and dealers in Dry Goods and Groceries. Montreal, 98, St. Paul Street.

HALDIMAND, BROTHERS, Ironmongers, sign of the Gilded Lock, corner of St. Paul and St. Vincent Streets, Montreal.

LAZURE AND BROTIERS, importers of English dry goods, American Satinettes, and Cottons of all kinds, Cloths and Casimeres, Shawls, Orleans, Alpacs, Linen and Cotton Threads, Broad Cloths, Doeskins, Moleskins, Fancy Plaids, Furs; also a large assortment of Dry Goods, Montreal, 108, St. Paul Street.

MATTHEW MOODY,

MANUFACTURER OF
THRASHING MACHINES, REAPING MACHINES, STUMP AND STONE EXTRACTORS, ROOT CUTTERS, REVOLVING AND CAST-STEEL HORSE RAKES, PATENT CHURNS, WAGGONS, &c. &c. &c.

THE Subscriber has been employed since 1846 in manufacturing his improved **THRASHING MACHINES**, with Horse powers. He was awarded the highest Prize at the Terrebonne County exhibition after competition with many others. They have thrashed and cleaned, with 2 horses, from 100 to 124 minots of Wheat per day, and from 200 to 250 of Oats, and have given universal satisfaction. He guarantees all purchasers for any recourse by Paige & Co., of Montreal, who allege having a patent for these machines, dated December, 1848! and warrants them equal to any made here or elsewhere, for efficiency and durability.

One of his Reaping Machines may be seen at Kerr's Hotel, St. Lawrence Street, price £25.

Having lately erected new and enlarged Works for the above articles, he will execute promptly all orders in his line.

Thrashing Mills constantly on hand. Two second hand Mills, in warranted order, cheap for cash.

Thrashing Mills repaired, and finishing work done.

Agency in Montreal, at Ladd's Foundry, Griffintown; in St. Andrews, L. C., at Mr. Henry Kempley's.

TERREBONNE, August, 1850.

THE SNOW DROP;
A JUVENILE MAGAZINE.

THE publication of the "Snow Drop," THE ONLY WORK OF THE KIND IN CANADA, will continue to be conducted by the Subscriber. The first number of Vol. 2, new series, is now ready, and will be forwarded at the earliest notice to new subscribers. Each succeeding number will contain not less than four wood engravings, and one appropriate piece of music, besides many other embellishments which will increase the interest of the work. In short, the publisher pledges himself to spare no reasonable exertion to make the Magazine all that is desirable, or could be expected, in a publication designed for young people.

The Editorial department will be continued by the same talented and popular writers who have been so successful in rendering the Magazine not only entertaining, but highly useful and instructive.

It will be printed, as heretofore, by Mr. John Lovell, whose extensive printing establishment affords every facility for executing it in the best style. It will be printed uniformly upon paper of a superior quality, manufactured expressly for the purpose, by Messrs. W. Miller & Co.

It is hoped that the interest thrown in the work,

will lead its former patrons to continue not only their support personally, but induce them to lend their influence in favor of a wide circulation.

That the work may receive a circulation commensurate with its importance, the following inducements are offered for the formation of clubs.

Any person who will forward \$1, free of postage, shall receive five copies of the "Snow Drop" for one year. There probably is not a town in Canada, in which four subscribers could not be obtained; any boy or girl disposed to make an effort, can at least, secure this number, and by sending the publisher the amount specified, will receive four copies for their subscribers, and one copy as a reward for the effort.

R. W. LAY.

MONTREAL, 1st July, 1851.

Extract from Notarial agreement entered into between the Lower Canada Agricultural Society and R. W. Lay.

NINTHLY. It is also further covenanted and agreed by and between the said parties hereto, that the said party of the second part (R. W. Lay) is by virtue of these presents constituted, the attorney of the said parties of the first part pending the present contract, and not further, for the express purpose and with full power and authority to collect all arrears for subscriptions due by subscribers to said Journal while published heretofore by the said parties of the first part.

(Signed,) ALFRED PINSONEAULT, *President.*
WM. EVANS, *Secretary.*

THE AGRICULTURAL JOURNAL AND TRANSACTIONS OF THE LOWER CANADA AGRICULTURAL SOCIETY, in the French and English languages, will hereafter be published by the Subscriber, to whom all COMMUNICATIONS relative to SUBSCRIPTIONS, ADVERTISEMENTS, and all business matters connected with the past or forthcoming volumes of the Journal, must be made.

The work will be increased in value and interest, by the introduction of DIAGRAMS of the FIXTURES and IMPLEMENTS of HUSBANDRY, together with PLANS of MODERN FARM BUILDINGS, and descriptions of the best variety of Fruits, Illustrations of Domestic Animals, &c.

As Publisher of the JOURNAL, I have wished to visit Agents and Subscribers to the Work, in the different parishes in Canada, to ascertain the interest felt in its prosperity, and awaken, if possible, a fresh zeal in the cause of Agricultural improvement. This I have done to some extent; but I regret that business here, obliges me to defer for the present many of my proposed visits. I have, therefore, conceived the idea of addressing a Circular to the Clergé and Agents, confident that they will feel deeply interested in the wide dissemination of the Work, and cheerfully distribute the Circulars in an advantageous manner.

Anxious to avail myself of every facility to secure an extensive circulation to the JOURNAL, I have made successful application to the Hon. Mr. Morris, Post-Master-General, to send the French Journal and Circulars to all parts of the Province free of postage, for six months. At the end of that time it is hoped that free postage for papers and periodicals will become a permanent thing.

I have not sent the JOURNAL in every case where there were subscribers before, for these reasons.—I had no means of knowing who would continue it; and I thought it better to wait, being assured that all who wished to obtain the Work would give me notice. I trust this may be a satisfactory explanation, and that I shall receive orders from every quarter fully proportioned to its importance.

The Journal contains 32 pages Monthly, is published at \$1 per annum, and any one obtaining new Subscribers, on remitting \$5, will be entitled to Six Copies of the Journal for one year.

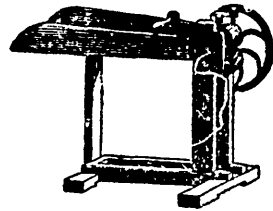
Agents and Subscribers are required to remit immediately to the Publisher the amount due the Society. Also, a CORRECT LIST of SUBSCRIBERS in their respective Localities. Care will be necessary, in giving the address, to write plainly, that all irregularity may be avoided.

The Subscriber is Agent for all the important American Magazines and Reprints, embracing the highest departments of Literature, Science, and Art; which he delivers in the principal Towns of Canada East, at New York prices.

Responsible Agents wanted to canvass for the SNOW DROP, AGRICULTURAL JOURNAL, and other Works, to whom a liberal Commission will be allowed.

ROBERT W. LAY.

193, Notre Dame Street, Montreal.



AGRICULTURAL WAREHOUSE.

THE Subscriber has constantly on hand, Samples of various kinds of AGRICULTURAL IMPLEMENTS, among which will be found, Ploughs, Cultivators, Seed Sowers, Straw Cutters, Corn Shellers, Subsoil Ploughs, Vegetable Cutters, Thermometer Churns, Horse Rakes, &c. &c. Expected by the opening of the Navigation, a large assortment of *Cast Steel Spades and Shovels, Cast Steel Hay and Manure Forks, Hoes, &c., &c.*

Agent for Sale of St. Onge's *Patent Stump Extractor.*

P. S.—Any kind of Farming Implements furnished to order, on the most reasonable terms.

GEORGE HAGAR,

103, St. Paul Street.

Montreal, 1st April, 1851.

JUST RECEIVED BY EXPRESS:
Harper, for August.

R. W. LAY,

193, Notre Dame Street.

July 3.

130

MONTREAL.—Printed by JOHN LOVELL, St. Nicholas Street.