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THE BRITISH AMERICAN CULTIVATOR.

"AGRICULTURE NOT ONLY GIVES RICHES TO A NATION, BUT THE ONLY RICHES SHE CAN CALL HER OWN."—Dr. Johnson.

Vol. 1.

TORONTO, OCTOBER, 1842.

No. 10.



THE CULTIVATOR.

"Agriculture is the great art which every government ought to protect, every proprietor of lands to practice, and every inquirer into nature to improve."—Dr. Johnson

Toronto, October, 1842.

WE consider it needless to occupy the columns of this Periodical with the details of the common business of practical agriculture, with which most farmers are perfectly well acquainted. In making selections we have endeavoured to give that information that is not accessible to the majority of our Subscribers. They have been generally made from *The Mark Lane Express*, *Farmers' Journal*, and the *Journal of the Royal English Agricultural Society*—hitherto from the first named paper more than any other, as it was only lately we had access to the others. We hope the selections we have made from *The Mark Lane Express* were judiciously chosen, and conveyed new and useful information to our Subscribers—very few of whom, we are well aware, had opportunities of seeing that excellent agricultural journal. From newly published works, that are not in the hands of many farmers in this country, we have also made selections. We do not see why farmers who desire it, should not have an opportunity of reading some of what is published lately on the science of agriculture; and to gratify this desire, we shall occasionally, submit selections from such works, that we hope will be found to possess some interest for most of our Subscribers. Such selections we conceive more suitable for an agricultural journal, than many which occupy the columns of papers published with this title. We trust that we are sufficiently acquainted with practical agriculture to enable us, in making selections, to distinguish between wild theory and such improvements as might be usefully and profitably introduced, and we shall, therefore, confine our selections and recommendations to what shall be useful and interesting to know, and possible and profitable to practice. We may not hitherto have given all our Subscribers perfect satisfaction, though we certainly have endeavoured to do so to the best of our judgment.

When we undertook to edit this Periodical, we stated to the Subscribers that, from practical experience in the old country and in Canada, for a period of 24 years, we were convinced that the most approved system of agriculture practiced in the British Isles, would be found, on trial, to be the most profitable to adopt in Canada—with the exception of cultivating turnips in the same

proportion—that it would not be prudent or necessary here with our present thin population. In this opinion we still continue to be firmly persuaded, and shall not alter it until the English system of agriculture has been fairly and fully tried and shall fail of success. In the cultivation of wheat in particular, that is considered the staple produce of Canada West, we take upon us to say, that the more closely the English approved mode of cultivating this grain is followed in general, the more certainty will there be of obtaining a good and profitable produce. We never expected, however, by any thing we could write or recommend, to induce persons who are already perfectly satisfied with their own present system of agriculture, to change any part of it for another system. To such persons we would say, by all means pursue the system you are accustomed to which produces you satisfactory results. If you obtain all you desire from your land and labour, go on and prosper in your own way, we do not presume to interfere with your practice of husbandry, provided you do not allow by your practice, pernicious weeds to grow and mature their seeds and scatter them far and wide over your neighbours' lands, who may wish to follow a different system of husbandry, that will not allow any plants to grow in their cultivated fields, but such as they have sown and planted in them. Farmers who may be prejudiced in favour of their own system, are not justified in continuing it if it permits the growth and propagation of pernicious weeds, and tends to produce disease and vermin, not only in their own crops but in their neighbours. Any farmer who permits, by his system of agriculture, injurious weeds to mature their seeds and scatter them over the cultivated soil of the country, is guilty of a great injustice to all industrious farmers who are anxious to keep their lands clean; and is the cause of great discredit to Canadian agriculture.—Disavowing as we do, any pretension to instruct by our selections or our own suggestions, those who require no instruction, we may be permitted to submit our ideas for the consideration of those who feel as we do the greatest satisfaction in reading any thing—and we may say, almost every thing—that is written on the subject of the science and practice of agriculture. It is true, we may read much on these subjects that may not be very useful, but nevertheless we may find some valuable instruction occasionally, that will more than repay us for the trouble of all we have read. We hope that Subscribers to this Periodical may find it so; that they may occasionally meet in its columns some information or suggestions that may be useful to them, and compensate in some degree for the trouble of reading. Relying upon the indulgence of our Subscribers, we shall do all in our power to give satisfaction. We may be often mistaken in our views, and when we are, we beg those who prove us to be in

error, may communicate their own opinions to us. We shall always be willing to give useful information from those who have opposite views from ourselves. All we desire is that THE BRITISH AMERICAN CULTIVATOR may be conducted in such a manner, as to promote the improvement and prosperity of agriculture in British North America—and to effect this purpose, we shall submit the most approved modes of cultivation practiced in our father land, by the best agriculturists on earth, and who obtain the largest and most profitable returns from land and labour. If farmers will not follow the example of their brother-farmers in the British Isles, it shall not be our fault. If they can do better we have no objection; on the contrary, we shall rejoice in it. It cannot be expected that we should make experiments on every plant we recommend for cultivation, and every subject we submit for consideration. We have, however, too much regard for our character as a practical agriculturist, to offer any recommendation or suggestion that would be inconsistent with the pretensions we have avowed to that character. Other farmers have just as much right to be at the expense, and incur the risk of experiments as we have. If they have not confidence in the reasonableness and practicality of our suggestions and recommendations, let them reject them.

SEASONABLE REMARKS.

Much of the season for sowing wheat has been unfavourable. From the tenth to the twenty-first of September the rains were incessantly accompanied with cold winds. Much wheat has been sown since the latter period, which will operate much against the next year's crop, unless the autumn prove very fine for the growth of the plants. Spring wheat, sown on summer-fallowed land, is a much more certain crop than winter wheat, if the latter be not sown in good season and in proper condition.

This is the usual month for sowing clover-seed. No farmer should purchase his seeds. Clover-seed is the most profitable crop that can be raised on lands suitable for its culture; and the labour of dressing is comparatively light in this age of machinery. If there are no clover mills in the neighbourhood, the chaff which contains the seed may be passed twice through a common threshing machine, which operation will cost very little labour or money, and will be as effectual as the best imported mill.

We might cultivate with profit, in Western Canada, sufficient for our own consumption, and some thousands of bushels for annual exportation. A neighbour of mine, a few years since, sold £150 worth of clover-seed, being the produce of the second crop of ten acres; the first crop having yielded him two tons of superior hay per acre.

The best two weeks in the month of October, and the first two in the month of November, is the most suitable period for autumn ploughing, turning, and sowing, and constructing and cleaning ditches; all of which will be considerably attended to on a well organized farm. Lands ploughed in autumn, if the soil be of a retentive watery nature, should be ploughed deep, and the low places or intervals should be drained with a plough or spade, so that there will be no possibility of the land being covered with surface water in the spring, to prevent the early application of

CULTIVATION OF WHEAT IN ENGLAND.

In England wheat is not often cultivated by good farmers without the application of lime. We believe lime is as necessary for this crop in Canada as in any country, and would be productive of as much benefit to the crop. The most approved mode of cultivating wheat in England at present is in drills, which are regularly hoed once or twice, and all grass and weeds completely removed from the crop. Sowing in drills always insures a well pulverized and clean state of the soil previous to sowing, because otherwise the seed cannot be sown in drills. If it be admitted that a crop of wheat, sown in drills, and kept perfectly clean of grass and weeds, with a free circulation of air, by means of drills through the growing crop, will be likely to produce a larger return and better grain, than a crop sown broadcast where grass and weeds may grow, why not cultivate in drills? If it is not an object worthy the attention of the farmer to prevent the growth of any plant with wheat except itself, we know not what may be worthy his attention. The expense of hoeing is objected to this mode of cultivation. We say in reply, that one or two bushels per acre will pay the expense of one or two hoeings when men are accustomed to the work, and one hoeing would be sufficient. We know not any matter more deserving the attention of the farmer, than the checking or removal of weeds from the arable lands, and by no means can they be so effectually removed from corn crops, as when they are sown in drills. Though we state this as a general principle applicable to cultivated crops, we admit, nevertheless, that no grain crop except wheat, can under present circumstances of high wages and low prices of produce, be cultivated in drills. Barley perhaps might pay, but as we would recommend the seeding down for grass with this crop and with oats, neither could conveniently be sown in drills. Peas are a crop that we would rejoice to see cultivated in drills, wherever the soil was in a state likely to produce a large quantity of weeds with the pea crop. In three-fourths of the growing peas we have seen for the last few years, it was almost impossible to distinguish what sort of crop was cultivated, in consequence of the great quantity of weeds of all descriptions, particularly thistles, that were growing with the peas. Peas cannot be weeded unless sown in drills, because the plants when a little grown, fasten themselves to every other plant growing near them; the consequence is, that the weeds remain and mature their seeds, and scatter them over the soil before the peas are ripe or cut. Peas are an excellent crop to prepare land for other crops, but not if a large quantity of weeds are allowed to grow and ripen with them and sow their seeds on the soil. We object to every crop that is not cultivated in such a manner, as to permit the removal and destruction of weeds, before they mature their seeds.—Every good farmer must be of the same opinion. Beans, we conceive, would be a profitable crop to cultivate in the English fashion. In Canada East they succeed well, where properly managed, and we cannot understand why they should not succeed in Western Canada. They are considered the best preparing crop for wheat, and the land must be clean if they are managed properly. Some years they are inclined to run

to stalk. Where this is the case, a few inches of the extreme top should be cut off with a scythe or other instrument, and this would check the growth of straw and tend to ripen the grain.—Beans are generally a fair price in England, and would pay for exporting to that country. The cultivation of hemp and flax should also be introduced as articles for exportation both in seed and fibre. The feeding of cattle and the produce of the dairy, are objects well deserving the attention of the farmer, provided the Legislature will do what is necessary for their protection and encouragement. The land that is laid down in grass with the necessary fertility, will always be in a profitable state, because it will be constantly in a state fit to produce any crop that is required. Nothing can be more beautiful in country scenery, than green and fertile fields, producing grass unmixed with noxious weeds. On the contrary, it is any thing but agreeable to see poor crops full of weeds, and the roads and fences in every direction, fringed with a luxuriant growth of pernicious weeds, seeding the country for a new and increased produce of the same description. Uncultivated spots of the most fertile land, is also sure to be occupied on every farm, with a crop of weeds of large growth. We lose all patience when we see the country, in every direction, disfigured by them, and the best qualities of the soil extracted from it by these strong and vigorous plants. Cultivated plants are unable to compete for their food, with neighbours that have so much larger and stronger roots in the soil, and hence, in proportion to the size and strength of weeds, is the weakness and poverty of the cultivated crop in which they are allowed to grow. We would observe, in conclusion, that with regard to the cultivation of wheat in Canada West, we do not recommend any change in the mode of cultivation, to those farmers who already raise clean and abundant crops, free from rust and the ravages of vermin. We are also aware, that in new lands and those that are not perfectly cleared, drilling crops are out of the question. We only recommend new modes of cultivation to those who do not, by their present system, raise clean and abundant crops of wheat. To all such we do recommend a change, which we hope they will find beneficial. The free circulation of air through the growing crop, that can only be obtained by drilling, is of great benefit in preventing disease; and the stirring of the soil by hoeing between the drills, greatly promotes the growth of the crop, and checks the ravages of vermin, who generally lie concealed about the roots of the crop, and the grass and weeds that may be permitted to grow with it.

From our residence being in Canada East, and in the centre of that part of the Province where the failure of the wheat crop has produced such disastrous consequences to the farmer, we have perhaps had our attention too much occupied by our own section of the country, and our observations accordingly had more particular reference to these consequences and the necessity for their remedy, than may be satisfactory to our Subscribers in Western Canada, who have not, unfortunately for themselves, been plagued with the wheat fly and the destruction of the wheat crops. We hope our Subscribers in Western Canada, will however pardon us for occupying so much of

THE CULTIVATOR on this subject. We are confident, that as they are favoured with abundant crops of wheat, that are safe from the ravages of insects, they will condole with their brother farmers of this part of the Province, and be anxious that a remedy should be provided, if possible, that would either enable the farmers of Eastern Canada again to grow wheat, or substitute some other crops that would make up to them for the loss of wheat. If our friends in Canada West are fortunate and successful with their crops, they will, we are sure, be generous enough not to find fault with us for giving so much of our attention to a subject that greatly reduces the products of agriculture in Canada East. We stated before, that the loss sustained by farmers in Eastern Canada, for the last eight years, by the failure of wheat, was not less than four or five millions of pounds currency, and we believe we did not exaggerate; no wonder, therefore, that we should feel the subject to be of the greatest consequence to us, and constantly, urge the necessity for inquiry into the matter, in order that some measures should be adopted, to save the farmers here from the ruinous consequences of the loss of their principal crop.

ENGLISH AGRICULTURE.

From our own Correspondent.

LONDON, August 3rd, 1842.

MY DEAR SIR,

Although detailed accounts of the recent meetings of the principal Agricultural Societies of Great Britain, will doubtless have reached you ere this, yet conformably to your wishes, I send you herewith a condensed account of the proceedings, suited to your limited space, accompanied by such passing remarks and reflections as occur to me, and which I trust will prove interesting to your readers.

The annual meeting of the Royal Agricultural Society of England, was held this year under very favourable circumstances. The splendor and magnificence of the meeting and its general arrangements, as well as the large concourse of company in attendance, mark clearly the high state of prosperity to which the Society has now attained. The demonstration affords abundant evidence that the farmers of England are actuated by a laudable spirit of emulation, and that they have successfully determined to keep pace with the improving spirit of the age. The advancement of agriculture is a knowledge which has been justly considered one of primary importance even in the earliest ages of antiquity, and in our own not only essential to existence, but the nursing mother of those arts of civilization which have flourished and filled Europe with their benefits. The prosperity of England (and indeed of every country), is intimately connected with the successful prosecution of agricultural pursuits; for they supply the basis of our home trade, and find employment for the greater part of our population. An amazing deal has of late been done towards the improvement of agriculture; it has been reduced to some certain and uniform principles; philosophy has laboured to develop its capabilities; the nature of soils and the laws of vegetation have been attentively studied and carefully explained; many useful experi-

ments have been tried and succeeded; and the important discoveries in chemistry and mechanical inventions of a most useful order, have eminently contributed to expedite its progress. Of this improvement we have abundant proof; the face of green fields; the broad expanse of pasture and arable which stretch far and wide and form so many fair landscapes around us—the cattle, more perfect than those which occupy the canvass of Claude—the implements of rural industry—the labours of the husbandman, all testify to the modern triumphs of agriculture; science, and the great benefits which such societies have wrought here and elsewhere for the country.—The advantages, the absolute necessity in fact, of these improvements and discoveries, are obvious to all: as population progresses and the area of the country becomes more and more occupied, to keep pace with and provide for the growing consumption of this increase, it is necessary to employ all the means that science and experience place within our range, to render the soil more productive.

The progress of the society was well described by Mr. Handley the President, who at the meeting, observed:—"I rejoice, however, to tell you that the society, for whose success I certainly took a very deep interest at the period of its foundation, now numbers among its members no fewer than 6,000 of the yeomanry of England, every one of whom necessarily feels an interest in the great object that we have in view, namely, to augment the means of human subsistence. If our society has done nothing more than this, it has at least made agriculture fashionable. We have in every quarter of the United Kingdom, gentlemen who are anxiously looking out, to test any experiment that we may recommend, or that has been deemed worthy of our consideration. We have in every part of England, gentlemen who are earnestly testing the quality of the soil, making the best rotation of crops, determining the best description of seed-wheat for different soils; in short, applying themselves to a careful consideration of all those operations of agriculture, which practical men know to be so essential to success. But it is not in practice alone that we are reaping a benefit; we hoped to bring science to bear upon the practical agriculture of the country, and in that we have been eminently successful."

Although its establishment was suggested by the kindred in situation in Scotland—the Highland Society—and it may indeed, be said to be the offspring of that society, it has far eclipsed its parent in the splendor of its meetings, the numbers of its patrons and its members, and the interest it excites, not only in its annual assemblages, but in the quieter course of its useful avocations. It is not fortunately, on the mere magnitude and splendor of its meetings, that the Royal Agricultural Society rests its claim for the support of the agriculturists of Great Britain. Its claims for patronage rest upon the interest, zeal, and energy which the exhibitions excite amongst the agriculturists, and which work with such a salutary effect in promoting the march of improvement in every part of the country where the meetings are held, or whence the farmers attend them; and upon the judicious system of holding weekly meetings of the Council in London, to receive reports and papers upon every point of agricultural knowledge, to stimulate its members both to communicate their own experience and to send that of others through the medium of the Society's Quarterly Journal, and thus to set the whole agricultural body both thinking upon and

working in the great employment of providing the food of the country, with redoubled activity and emulative zeal. But a truce to digression—I have already occupied too much of your valuable space with my prosaic observations, and must now proceed to detail in brief the actual business of this meeting. The arrangements of the society were dictated throughout with much liberality and judgment. Ample and extensive notice was given many months previous, of the regulations, the premiums, &c., for the exhibition of stock and implements, and other objects of competition. The result of the labours of the General and Local Committees gave much satisfaction.

The meeting commenced on the 12th of July—on which day a *rechezete* and elegant banquet was given to the Council by the Mayor and Corporation of Bristol, at the Merchants' Hall. At an early period of the week the guests began to throng into the city, and accommodation could scarcely be found for the immense numbers arriving from all parts of the kingdom. The Duke of Cambridge was among the visitors; and their number included most of the leading agriculturists tilled and untilled.

On Wednesday the Council dined together at the Victoria Rooms, Clifton, a fine new building, the use of which was specially granted to them by the proprietors. In the course of the day, a ploughing match took place, for which forty ploughs were entered, and a trial of newly invented machines and agricultural implements was held; there was also a very fine cattle show.

Mr. Smith of Deanston, the inventor of the Subsoil Plough, delivered a lecture on Drainage, which you will find reported in *The Mark Lane Express* of the 18th ult., which, I may remark by the way, contains a full and complete account of all the proceedings.

Thursday the 14th of July, was the grand day—when the attendance of members and visitors was most numerous. The first business of the day was the great show of stock and implements. A lecture was then delivered at the Bristol Institution, on "the morbid anatomy of Domestic Animals." The grand meeting of the members of the society took place at 4 o'clock, in a pavilion erected for the occasion; between 2 and 3,000 guests sat down to table. On Friday the 15th, the sale of stock in the show-yard commenced, and a general meeting of the members and Council, for business purposes, closed the proceedings.

In connection with this meeting I would especially call your attention to the excellent observations which fell from the American Minister, the Hon. Mr. Everett.

England has always had the character of being an exceedingly proud nation—but I think she may well be proud of her successful efforts in promoting the interests of agriculture,—efforts which have commanded for her the admiration of other countries—many of whom are now nobly emulating her zeal, and enterprize, her energy, industry, skill, and perseverance. Other countries may be blessed with more bountiful soils, more genial climates, and more luxuriant vegetation, but the British farmer has battled with all the adverse circumstances with which he is surrounded, and the fruits of his labour are evident in the garden husbandry of our land—in the rich crops and abundant harvests which he reaps.—England may well then be proud of all she is, and has been and will be. She is proud of her wealthy farmers and yeomanry, of her cottage homes, of her honest peasantry. She is proud of her fine stock, of her unrivalled breeds of cattle, of her improved implements of husbandry, of

her success in introducing new fertilizers to recruit the soil exhausted by over cropping. And she may challenge the world to compete with her in any one department of agriculture—be it in the rearing and breeding of stock, the tillage of the soil, the successful growth and culture of crops, the occupations of rural life, or the application of skill and science to the various agricultural implements. Far be it from me to boast vainly gloriously of these acquirements and this success. Other nations are equally capable of successfully carrying out the various branches of husbandry and rural economy; and glad shall I be to see them more zealous and indefatigable in the promotion of agricultural improvement, and competing successfully with Great Britain, following step by step in the race, and they may perhaps hot duststep her at the goal.

Several important meetings have followed that of the Royal Agricultural Society of England.

The Irish Agricultural Improvement Society held its first annual meeting and show of stock at Cork on the 20th of July. The meeting was one of the most important that had ever taken place in Ireland, as many of the leading nobility, gentry, and agriculturists from England and Scotland were in attendance. Deputations from the Royal English Agricultural Society and from the Highland Society of Scotland, headed by the Marquis of Downshire and the Marquis of Abercorn were in attendance. The Council dinner was held in the Clarence Rooms of the Imperial Hotel, Lord Viscount Bernard, M. P., took the chair, in the absence of the Duke of Leinster, the President. Lord Viscount Doneraile filled the Vice Chair. Some excellent speeches were made on the occasion.

On Thursday the 21st, the members and visitors, about 1,000 in number, dined together in the Corn Exchange. The Marquis of Downshire in the Chair. Nearly £900, was awarded in premiums for the introduction of new and improved breeds of cattle, agricultural implements, &c. About £700 was also applied towards premiums for the Local Societies. These prizes were confined exclusively to small farmers holding only 25 acres of land, and medals were given to the large proprietors. This society has at present an annual revenue of about £2,000., besides a large sum vested in the funds: The Duchess of Leinster gave a grand assembly which closed the proceedings.

There was a very interesting meeting of the Northumberland Agricultural Society on the 28th at Belford.

The Highland Society of Scotland held its meeting on Monday the 1st Instant, when there was a dinner of the Committee at the Waterloo Rooms, Edinburgh. The great cattle show and dinner were to take place yesterday. His Grace the Duke of Richmond, President of the Society in the chair, His Grace the Duke of Roxburgh, Vice President of the Society, Croupier. The proceedings of the meeting and the result of the show have not yet reached.

The Yorkshire Agricultural Society, a very large and important one is also now holding. I have extended this letter to so great a length, that I must hasten to a conclusion, and my remarks upon the crops, &c., must necessarily be very brief.

The harvest is getting in, in many parts of the country, and will soon become very general.—On the 27th, the country was visited with a tremendous thunder storm accompanied by a heavy and

long continued fall of rain, which did partial damage in some places by lodging the heavy eared grain. The accounts from all parts of the country seem to concur in the opinion, that the entire produce will hardly amount to an usual average throughout the kingdom, this arises chiefly from a deficiency of plant which was early complained of, and which the continued fine weather has not been able to overcome. The supplies of foreign wheat although they have slightly decreased are still liberal.

The Farmers' Magazine for August just published, contains a very interesting memoir and portrait of Robert Bakewell, well known as the originator of the Dishley or New Leicester breed of sheep; being the first of a series of biographies of eminent British farmers.

I am yours' very truly,

P. L. SIMMONDS.

LONDON, August 19th, 1843.

MY DEAR SIR,

The Yorkshire Agricultural Society held their fifth annual meeting at York last week. The sum of £650. was expended in premiums. The Council dinner was held in the Guildhall on Tuesday, Earl Spencer presiding in the unavoidable absence of the President Lord Wharnclicke. The great dinner and meeting of the members was held on Thursday, when about 800 persons were present. The show and meeting altogether was much superior in every way to that of last year. Some excellent and appropriate speeches were made on the occasion by the noble chairman, the Earl of Zetland, Lord Fevasham, Lord Wenlock, Sir John Johnstone, Bart., M. P., Mr. Milnes, M. P., Mr. Stanfield, M. P., and others. Richmond, Thirsk, and Doncaster were the competing places for the next show, each offering £150. donation, their town hall for the meeting and a field for the show. Doncaster was selected.

At the 6th annual meeting of the East Riding Agricultural Association recently held at Beverley, a hog pig of the Lord Wenlock race, bred by Mr. R. Moore of Brandesburton was exhibited. This surprising animal, although not two years old, measured 82 inches from poll to rump, in girth 80 inches, stands 44 inches, and weighs nearly two hundred stones.

A portable saw mill exhibited at this meeting by Mr. Crosskill, agricultural implement maker of Beverley, attracted many inquiries.

The annual agricultural meeting and general show of live stock, implements of husbandry, roots, seeds, &c., of the Highland and Agricultural Society of Scotland, commenced at Edinburgh on Monday the 1st instant, and lasted the entire week. The exhibition was of unexampled extent, being larger than the famed show at Warwick last year, which was the greatest the Society had held up to that time. The amount of stock, &c., entered, was greater than upon any former occasion, comprising upwards of 1,100 animals, besides a great variety of implements, &c., &c.

The Edinburgh papers which we have received all contain full and excellent reports of the proceedings. The public show took place on Tuesday, and at one period it is stated, there could not have been less than 20,000 individuals in the yard. The money collected for admission to the show on this day only, amounted 1 under-

stand to upwards of £1,300., the largest sum ever drawn on any similar occasion. The nearest approach to it was at Glasgow, where upwards of £800 was collected. A peculiar feature in the exhibition was a gallery erected for the ladies, having in front a raised platform, along which the prize animals were passed to gratify the fair visitors.

About 2,000 persons were present at the grand dinner of the Society, which took place under the presidency of the Duke of Richmond. The principal speakers on the occasion were the Earl of Mansfield, the Duke of Roxburgh, the Earl of Rosebery, &c. A large deputation attended from the Irish Agricultural Improvement Society. The Chairman urged upon the Society the advantage of distributing gratuitous copies of the Transactions and Journal among the members after the manner of the English Agricultural Society. A lecture was delivered on Monday before the members by Dr. H. R. Madden, "On the condition of the soil at seed time as influencing the future prospects of the crop," and an other lecture on Wednesday the 3rd, by Mr. Hyett of Painswick, Gloucester, "On the practice of administering artificial solutions to the sap vessels in growing trees, in order to improve their colour, durability, flexibility, strength, fragrance," &c., &c.

In the list of patents sealed last month is a singular one, viz.: to "Lady Ann Vavasour of Melbourne Hall, Yorkshire, for improvement in machinery for draining land. Sealed 7th July. Six months for enrolment." Success attend the scientific efforts of the ladies of England say we.

The Royal Agricultural Improvement Society of Ireland, hold their second anniversary meeting next year at Belfast.

Messrs. Blackwood announce for publication early next month, a work on "The Grasses of Scotland, containing a scientific description and illustrations of about 130 distinct specimens, by Dr. R. Parnell, F. R. S. of Edinburgh." Price twenty shillings.

A public meeting was held in the city of Cork the other day, for the purpose of forming an Agricultural Museum in that county; the idea is an excellent one, and ought to be adopted and extensively acted upon in every county, city, and town of England. There are several central ones connected with the chief agricultural societies situate at London, Edinburgh, and Dublin.

A public monument to the memory of the late Thomas Wm. Coke, Earl of Leicester, one of the greatest friends and patrons of agriculture the world has hitherto seen, is shortly to be erected. About £3,000. has already been subscribed towards this laudable object.

The leading farmers and agriculturists of the Kingdom, have also recently subscribed about £400. for a service of plate to W. Shaw, Esq., Editor of *The Mark Lane Express and Farmers Magazine*, and one of the projectors of the Royal English Agricultural Society, for his zealous and indefatigable exertions in the cause of agriculture.

I am yours' very truly,

P. L. SIMMONDS.

A kind refusal is sometimes as gratifying as a bestowal; he who can alleviate the pain of an ungracious act is unpardonable unless he do so.

AGRICULTURAL REPORT FOR CANADA EAST.

SINCE our last Report the weather was not unfavourable for harvesting, and most of the crops are now safely secured throughout Eastern Canada. On new lands far back, and on low swamp lands that could not be sown early, some of the oats are yet out, but from the present appearance of the weather all will probably be got in safe. We have seen several small fields of wheat of the variety termed "Three months' Wheat" in this neighbourhood, and though from late sowing, (in the latter end of May and early in June), it had escaped the fly, yet in every field it was considerably injured by rust or mildew, and in the beginning of September, some from this circumstance was cut down while the straw was green. One small plot, grown, we were told, from seed-wheat obtained from Smyrna two or three years ago, was perfectly free from rust, and having been sown near the end of May, it had escaped the fly and was a good crop, nearly ripe the 1st of September. We observed that the straw of this wheat was of peculiar quality, hard and wiry and of a brownish hue near the ear, unlike the straw of our common wheat. From its being proof against rust and mildew, however late sown, this variety of wheat might be safely cultivated here. The fly will not injure wheat to any extent that is sown after the 25th of May. The straw of the wheat that is generally grown in Canada is very soft, and liable from this quality to the disease of rust and mildew. It has this quality in common with all other plants grown here, derived we suppose from heat and a rapid growth. Wheat grown on land after potatoes in particular has very luxuriant and soft straw, and generally becomes rusted unless in very dry seasons. We believe the defective quality—softness of straw—might be remedied by the application of lime in preparing land for wheat; and if it is desired that our lands should produce wheat, we must adopt a new mode of cultivation. It is perfectly clear that we cannot grow good crops of this grain by our former mode of cultivating for it. Draining and liming is necessary in order to have any chance of producing what should be considered a good crop. It is not a produce of ten or twelve bushels the acre that would remunerate a farmer who would cultivate land properly for wheat. In our last English papers, we seen a report of a crop of wheat that produced forty-four bushels per acre, raised this year on land, that three or four years back, was not worth more than seven shillings and sixpence the acre. This improvement was in consequence of more perfect draining and cultivation. When we manage our lands in the English fashion, we may expect something like the same results, though perhaps not fully equal to them in every thing. The disease of rust and mildew in wheat is its fatal to the crop as the fly would be, if it affects the crop before the grain is nearly at maturity. In the latter end of July and beginning of August, we generally have that sort of moist, warm, and calm weather that is so apt to produce this destructive disease in wheat: and if it is sown late, though it should escape the fly, it is sure to be destroyed. It is in consequence of this risk that we have always disapproved of late sowing of wheat, unless indeed this variety we have referred to may be proof against rust however late sown. Under existing circumstances, therefore, we should sow wheat that will resist rust and mildew, or procure a variety that will be proof against the ravages of the fly. Such as the

"Cone Revn" or "German Thickset." If we should cultivate other varieties of wheat, we might be able to do so perhaps successfully by lining the soil—sowing in drills—and keeping down all weeds and grass in the crop by once hoeing. By this management wheat might be sown early in the fall, and we believe it would be in ear so early in June as to escape the fly, and be safe from rust and mildew by keeping it free from weeds and grass, and by the free circulation of air through the crop, which cultivating in drills would give it. If wheat is sown that resists the fly, we shall only have to fear the effects of rust upon the crop, and we think this might be remedied in a great degree by the application of lime, by drill sowing, and perfect weeding. As to sowing in the usual way our common varieties of wheat early in spring, we fear it will only produce certain loss to the farmer. The loss of a crop of wheat is a serious one, because the best soil is generally sown, and the farmer incurs not only the loss of his land, seed, and labour, but the profit he might reasonably expect from a crop that the land would have produced. Sowing in drills and hoeing may be considered too expensive, and this mode of cultivation can only be adopted on land that is well prepared.—We are aware of all this, and in reply say, that only on such lands should wheat be sown, and we state farther, that we have no doubt that sowing in drills and keeping the crop free of all grass and weeds, would be amply compensated to the farmer, by an increased produce and better quality, than he would obtain from the common mode of cultivation. All the farmer's precaution may not be able to preserve his wheat from the disease of rust in some seasons, but if he do all that is in his power, his crop will be safe in ordinary seasons. We have said more on this subject than may be thought necessary, but we believe it so essential to the prosperity of this part of Canada, that it should produce wheat as heretofore, that we take every opportunity to recommend experiments being made on new modes of cultivation, and the introduction of new varieties of seed. Every reasonable experiment should certainly be tried, and if all shall fail, we must only strive to do the best we can with other crops.

Since our last Report the potatoe crop has sustained a check to their growth. On the night of the 9th of September, we had frost sufficient to destroy the vines or tops very generally throughout the country, except in the immediate neighbourhood of Montreal, and as much of the crop was planted late, the produce is not likely to be so large, or of so good quality, as if the tops had continued green to this time. On the night of the 23rd we had frost again, so severe as to form ice, and potatoes that were green previous to that night, were next day completely withered. We have heard unfavourable reports from many parts of the country, particularly where the soil was of strong quality, and on lands not sufficiently drained. From these circumstances we are led to suppose, that though the crop may be good in many fields the average return of potatoes will not be so abundant as we thought they would be the latter end of August. The season has been very favourable for other root crops.—The pastures are better than usual, and dairy produce abundant and at moderate prices.—Butchers' meat exceedingly low in price. Hay from 10s. to 20s. the hundred bundles; Barley, 2s. 3s. to 2s. 6s.; Oats, 1s. to 1s. 3d.; Potatoes, 1s. to 1s. 3d. per minute. The orchards are very much short of the usual produce. Some have no apples—but we believe there is a large impor-

tation of foreign fruit. We do not report the price of wheat, as we have unfortunately none to dispose of.

We perceive by the prices of oatmeal in the markets of the British Isles, by the latest advices, that a profitable business might be done here in manufacturing oatmeal for exportation to England. We recommend this trade most particularly, and we would at the same time suggest that the oats be well kiln-dried from which meal is to be manufactured for exportation, as it will keep much better in the barrels from been previously well dried, and sell better when it arrives at its destination. In the commencement is the proper time to establish a good character for a new article of exportation.

On the whole, farmers have no reason to complain of the produce of crops as regards quantity, with the exception of wheat. Of course, it could not be expected that large crops would be produced where the land had not been properly cultivated for them, and where weeds were allowed to rob the useful plants of the greater portion of the nutriment that might have been in the soil.

We shall now, in conclusion, submit a few observations.

At present the general mode of cultivation throughout a large proportion of Eastern Canada is so defective, and contrary to the most approved practice of husbandry introduced in the British Isles, that it would appear to a stranger as if the land was ploughed, sown, and planted, with a view to employ men and horses, rather than with any reasonable hope that a crop would be produced, that would remunerate for the land, labour, seed, and a profit. We have no desire to libel our brother-farmers. On the contrary, we would be disposed to give them all honours, and to wish them all possible happiness and prosperity. Any who differ with us in this opinion as to the general state of agriculture in Canada East, we invite to make a tour throughout that country in the spring season of sowing and planting. Let them examine well the state of drainage—the ploughing—the state of the soil as regards cleanliness and fertility, and whether the proper means are being adopted to clean it, or give it fertility, if either be required. Let them see if there is any rotation of crops observed—what proportion of meadow and pasture—the state of both—and the number of neat cattle and sheep kept in proportion to the farm. Let the same individuals visit again the same sections of country in summer and harvest, and observe, as we have often done, the state of the crops, &c., resulting from the system followed, and if they do not agree with us in opinion, that the present system is defective, unprofitable, and requires to be altered for a better, we shall, indeed, be much surprised. We admit there are very many farmers who follow the most approved system as nearly as the returns, which farming yields at present will warrant; but there are few who come fully up to the system practiced upon a first class farm in the British Isles.

Man, found Canada covered with a most luxuriant growth of majestic and beautiful trees, of all varieties that are common to these latitudes. He cut them down, carried them away, burned or otherwise destroyed them. Even their ashes he carried away. He done all this in order that the land should grow new plants; more suitable to his purpose of food and clothing. The forests were maintained in all their luxuriance of growth by the constant fall of leaves and the decay of old trees. Man cultivated the soil for his own use, and by constant and injudicious cropping,

without giving it what it ought to receive in return, exhausted it of all its fertility, and reduced it to that state that it is now more inclined to produce weeds than useful plants of man's cultivation. When we force land to produce a new variety of plants from those that were its natural production, it may reasonably be supposed that there is something for us to do to fit the soil for this change. Draining is the first requisite, and next it is necessary to keep the soil in a proper state of fertility, by returning to it some ingredients that will replace what we take from it. We may also naturally suppose that some parts of the soil may require mixture or dressing to make it suitable for the new species of plants we wish to cultivate upon it. Man should consider all these matters. It is perfectly clear that thistles and weeds of all descriptions, are the product of his injudicious cultivation and management.—They are not to be seen in the native forest, nor in land when first cultivated. If they subsequently appear, it is our duty to check their growth or remove them when they do grow.—The natural production of this country, when man first takes possession of it, proves beyond a doubt, the excellence and fertility of the soil.—There may be some parts of the country that is not deserving of this high character of soil, but it is only a small proportion that is so. The worst part is much better natural quality of soil than many parts of the British Isles, which produce excellent crops by proper cultivation and management. Our only motive in writing thus, is to induce our brother-farmers to examine fully the present state of Canadian agriculture. If they consider it in that improved and prosperous condition that ought to satisfy them, we should be sorry, by any thing we would say, to make them discontented. If, on the contrary, it is not in this improving and prosperous state, we would earnestly urge them to begin immediately to introduce such ameliorations, as their own convictions—their interests—and the example of other countries would point out as necessary and expedient. We remind them of the actual state of things—we endeavour to prove that they might be better—and we respectfully suggest the measures we conceive possible to adopt to make them better. We may be often in error, but we never shall propose any measure for the adoption of our agricultural friends, but such as we honestly believe will be for their benefit, as well as for the advantage of the whole community.

Cote St. Paul, 27th September, 1842.

FEMALE LABOUR IN ARABIA.—I saw several females here literally performing the labour of bullocks—in plain English, they were yoked to the plough. One was a very comely lass, and she answered my inquiries laughingly, that they hired themselves for the purpose, the remuneration being a small quantity of grain! The men at the same time were standing looking on, with spinnets in their hands. An odd transfer of duties this! The reader may recollect that Sir Thomas Munro relates, as a reason why an Indian should be exempted from paying his taxes, that he pleaded the late loss of his wife, who did as much work as two bullocks.—Selected.

He that does not know those things which are of use and necessity for him to know, is but an ignorant man, whatever he may know besides.—Tillotson.

POETRY.

A LEAF THAT REMINDS OF THEE.

FROM "HANDY ANDY" No. 6.

Copied from *The Mark Lane Express*.

How sweet is the hour we give,
When fancy may wander free,
To the friends who in memory live!—
For then I remember thee!
Then, wing'd like the dove from the ark,
My heart, o'er a stormy sea,
Brings back to my lonely bark,
A leaf that reminds of thee!

But still does the sky look dark,
The waters still deep and wide;
Oh! when may my lonely bark
In peace on the shore abide?
But through the future far,
Dark though my course may be,
Thou art my guiding star!
My heart will turn to thee!

When I see thy friends I smile;
I sigh when I hear thy name;
But they cannot tell the while
Whence the smile or the sadness came.
Vainly the world may deem
The cause of my sighs they know;
The breeze that ruffles the stream,
Knows not the depth below.

ON THE DEATH OF A YOUNG LADY.

Oh! she was too good for this world of care,
Where flourish rank weeds and droop fair flowers,
And her spirit has soar'd far away;
She was like the first dawn of a bright summer's
morning,
Ere it bursts into beautiful day!

She was like the blush of the budding rose
Ere into the ripen'd flower it blows;
Or like the sweet blossom of May,
Which blooms premature for the cloudy day,
And fades into early decay!

Her thoughts were too pure and her soul too
bright
For this vale of dark phantoms and shapes of
night;
She perished in early bloom!
And the buds of beauty with dew are mourning
On her hallow'd and silent tomb.

ALCESTES.

CURE OF HYDRAPHOBIA.

The Austrian Government have published the following notification of remedy in case of Hydraphobia:—

"Whenever a person has been bitten by a dog, the under surface of the tongue is examined, and the sublingual veins are generally found to be considerably swollen. They are opened, and the blood allowed to flow until it stops itself. The patient is then ordered to take 25 grains of gentiana crociatica. This is the strongest dose, but it should be varied according to the age and constitution of the patient and the intensity of the disease. It should be cut up into small pieces, and pounded in a mortar with water, until a clear solution is obtained. It should be taken during nine days successively, before breakfast in the morning. At the same time the bite should be treated in the following manner. If the patient has only been recently bitten, the wound should be washed with spirits of rosemary, and then dressed with a plaster composed of two portions of flour and rye and one portion of the wood of the Juniper tree, finely pulverised, with a sufficient quantity of brandy to bring it to the consistence of a thick paste. If the wound be deep and dangerous, then

equal portions of the two first substances may be taken. If the hydrophobia has already assumed a violent aspect, the patient must be incased in a straight waistcoat, in order to prevent him from doing mischief either to himself or others. The above remedy must be applied, taking 30 grains of the root of gentiana crociatica, instead of 25 grains. It will occasionally be found necessary to resort to force to induce the patient to swallow the medicine. At the expiration of three hours the dose must be repeated. Should the patient not come to his senses after the second dose, an entire root must be placed in his mouth with great precaution. The patient will chew it with avidity, and if he swallow the remainder of it, it may be looked upon as a favourable symptom. The veins should not be opened unless the patients are tranquil, or have partially or entirely recovered their senses. As soon as the blood has ceased to flow, some broth should be given to the patient, who will then fall into a deep sleep, in which state he will remain for eight or ten hours. During this sleep, a glutinous mucus will collect in the mouth, which is very important, indeed essential, should be removed."—*English paper.*

The following extracts from "A Lecture by Mr. Smith of Deanston, on Drainage," delivered at the Bristol meeting, we consider highly deserving the attention of our farmers:—

"After apologising for the alteration of the time of lecturing, Mr. Smith proceeded:

"I need not, before such an audience, say that to the agriculturist the dryness of land is of great importance—that, in fact, the dry condition of the soil is the foundation of all good husbandry. It is beneficial in the first place, to the working of the soil; it is beneficial also to the after-growth of the plants, and there is scarcely any labour connected with agriculture which is not facilitated by the dryness of the soil. If we look on the face of nature we may gather instruction on this subject; for if we find a tree stronger than his neighbour, we shall find that there the soil is deep and in a dry condition. If we see a stronger and darker-coloured herbage growing on the hill side, there the soil will again be found deep, and in a dry condition. There is not one of the various soils on the surface of the United Kingdom, which will not be much improved by being placed in a dry condition, if they are not so by nature. I would say that even on a sub-soil of gravel or sand the introduction of the thorough drain system would be beneficial; but as there is only a small portion of that sort of soil in this country, the greater part being super-imposed upon a wet soil, it becomes of the very first importance to the progress of improvement in agriculture, that means be taken to render the condition of the soil dry. Many attempts have been made with that view, but they have generally failed, in consequence of not having been done on a proper principle. The first system introduced into this country, was to excavate deep drains, for the purpose of catching the water that rose from below in the form of spring water. These were, to a certain extent, effectual, and no doubt removed a great deal of the difficulty which agriculturists had to contend with, on land partially wet and partially dry; but until the introduction of the thorough drain system, there was not the power of draining land, on whatever subsoil resting, and rendering it thoroughly and completely dry.—The purpose of this lecture is to illustrate, first, the principle on which this system acts;

then, to show the advantages which would arise to the agriculturist in carrying on the different processes with respect to the various crops; and then to explain the modes employed to render this drainage effective, both as to the cutting of them, and to the preservation of the openings made for the escape of the water. * * *

It is the suggestion of scientific gentlemen who have turned their attention to the subject of agricultural chemistry, that the rain in falling from the atmosphere absorbs a considerable quantity of ammonia; and if there is any affinity in the soil for ammonia, if the soil wants ammonia, the affinity will extract the ammonia from the water, the ammonia remaining in the soil for the nourishment of plants. It is also known, that where artificial manure is put into the soil, some of the fibrous parts of it will be carried away with the water, and be carried down to the region to which it belongs; and although not so near the surface as it was before, it is near enough for the plants to reach it when they put down their roots.

A very peculiar change takes place in any subsoil—it does not matter what composed of—after it is ploughed. This change begins to take place immediately, and the soil gradually goes from the state in which it was before to that of a mould. If you examine a soil which has become mould, it is of a very peculiar structure. It appears as if all the particles were connected together, and it seems to have some sort of attractive property by gathering together in that way. Vacuities for the air are thus formed, and there is a great tendency to absorb and retain as much moisture as is useful to the plant. If it is filled entirely with moisture it is injurious to the plant, but if there is a certain quantity it becomes beneficial; and when a great depth of soil is attained, there is great advantage indeed, in anticipation of either a wet season or a dry one. In a wet season the water flows away, leaving the soil in a dry state; but in consequence of the moulder state in which the soil is, it is very retentive of moisture, and there is a great magazine of water preserved in soil for a dry season. Being covered by the active soil, the drought may penetrate a few inches, but in consequence of the lower part of the soil being covered with this upper stratum, it is defended from the extreme action of the rain, and a very dry atmosphere. Consequently, it will be found that in soil so treated and converted into this mouldy condition, in very dry seasons sufficient quantity of moisture will be retained for the use of the plants, which will grow vigorously when land in the same neighbourhood is completely dry.

A notion has prevailed with some people, that it is possible to drain land too much. I do not think so, from the very fact that the mould becomes an excellent magazine for the retention of moisture. A circumstance took place in regard to this in my own district, in 1826, a very dry season. In that year there was such a long period of dry weather, that the pond was dried up, and there was a great deficiency of crops. I had a field which had been treated in the way I have explained, and I had a crop of hay on it. The hay in the country round was very poor indeed, producing not above half a crop. On this field, which I had deepened to 16 inches, I had a very splendid crop. A proprietor of land in the neighbourhood, one of the old school, resisted to the utmost of his conviction, with regard to the result of thorough draining and subsoil ploughing. A person occasionally employed by me was also engaged in doing work for him. He had asked about this hay, and the old gentleman was rather puzzled at the state of the

crop, and exclaimed that he really thought I had drained my land so much that I should have no crop at all. He was immediately after this completely wedded to the system, and from that day has been vigorously engaged in introducing thorough draining and subsoiling all over his estate; and he is now having a great deal of poor soil, on a very rich and productive estate, treated in the same way. Taking the average of that gentleman's estate, I should say that he now produces double the quantity of corn that he used to obtain. He now grows potatoes where he could not grow them before, and on the old clay he produces regular and large crops of turnips.

A gentleman wished to know the name of the individual referred to.

Mr. Smith—Mr. Stirling, of Keale.

Another inquiry was made as to whether there was any land where subsoil-ploughing would be successful without thorough draining.

Mr. Smith—I am much obliged for that hint. Many persons have thought that ploughing the subsoil might do without thorough draining, but there are few instances indeed in which that application of the plough will not be hurtful instead of being beneficial. If you have a retentive bottom which will not allow the moisture to pass away, it must remain till absorbed by the atmosphere; therefore the greater the chambers for receiving rain, so much the longer will the land be kept in a wet state. The practice which now prevails in the English clay districts of ploughing with a shallow harrow, has arisen from the experience of ages, which has taught them that on such soils you cannot cultivate wheat if you plough a deep furrow, because you make just so much the larger chambers to receive water. Even in open soils I would not recommend the application of the subsoil plough till the thorough draining had been executed. * * *

A question has been handed to me, as follows:—“What effect have thorough draining and subsoil ploughing on the habit of throwing out the wheat plant by frost?”—There is no difficulty in answering this; because it is well known to be owing to the moisture that the wheat plant is thrown out, and whatever removes the moisture, will have the favourable tendency required. I have known many places where almost every winter the greater part of the plants were thrown out. Now, the result of thorough draining and subsoil ploughing is that they retain the plant perfectly well, and have very abundant crops.”

The remainder of the Lecture of Mr. Smith is highly interesting, and we may give it at another time. The experience of this gentleman ought to be sufficient to convince every one of the vast benefit that is to be derived from thorough draining. Indeed, arable culture cannot be profitable without thorough draining.

FIELD MUSHROOMS.—(From a Correspondent of *The Times*).—Persons at this season of the year cannot be too cautious in the choice of mushrooms. Sunday afternoon a family named Harper, residing in Berwick Street, Soho, nearly lost their lives by eating too freely of some stewed mushrooms, which in the course of the morning had been purchased of a country-looking lad, who was hawking them in a basket about the streets for sale. Shortly after eating the same, they were seized with violent retching, attended with choleric pains in the stomach, which, had not medical assistance been

promptly produced, would most probably have proved fatal. Besides several poisonous “fungi,” there is a variety of the *tubai*, which, although an innocuous catsup may be made from them, yet are dangerous to be eaten, being highly indigestible, and apt to swell in the stomach, producing very painful and dangerous consequences. The best way to test the quality of mushrooms is to introduce a silver spoon, or a new shilling, or sixpence, or an onion, into a vessel into which mushrooms are seething; if, on taking either of them out, they assume a dark discoloured appearance, the circumstance denotes the presence of poison existing among them; if, on the other hand, the metal or onion on being withdrawn from the liquor wears its natural appearance, the fruit may be regarded as being genuine and of the right sort.

AUTUMNAL LEAVES.

We all know that it is a universal practice among gardeners, to sweep up and carry away the dead leaves of autumn, which at this season are strewn the ground in all directions. The neatness which must be maintained in a garden seems to render this labour necessary, and the practice of ages sanctions it. In the eyes of nine-tenths of the world, the man who permitted the dead leaves to accumulate among his shrubs would be set down as a sloven; and yet that man would be a better gardener than he who is eternally exercising the broom and the rake, and treating his garden as a housemaid treats her chambers. When nature causes the tree to shed its leaves, it is not merely because they are dead and useless to the tree, but because they are required for a further purpose—that of restoring to the soil the principal portion of what had been abstracted from it during the season of growth, and thus rendering the soil able to maintain the vegetation of a succeeding year. Every particle that is found in a dead leaf is capable, when decayed, of entering into new combinations, and of again rising into a tree for the purpose of contributing to the production of more leaves and flowers and fruit. If the dead leaves, which nature employs, are removed, the soil will doubtless, upon the return of spring, furnish more organizable matter without their assistance; because its fertility is difficult to exhaust, and many years must elapse before it is reduced to sterility. But the less we rob the soil of the perishing members of vegetation, which furnish the means of annually renewing its fertility, the more will our trees and bushes thrive; for the dead leaves of autumn are the organic elements out of which the leaves of summer are to be restored in the mysterious laboratory of vegetation. They contain the carbon of humus, and the alkaline substances essential to the support of growing plants; and although such substances can be obtained from the soil, even if leaves are abstracted, yet they can never be so well obtained as through the decay of those organs. The dead leaves of autumn then should not be removed from the soil on which they fall. Neatness, no doubt, must be observed; and thus, we think, will be sufficiently consulted if leaves are swept from walks and lawns, where they do no good, and cast upon the borders in heaps, where they will lie and decay till the time for digging has arrived, when they can be spread upon the earth like so much manure. Or, when planting is going forward, a quantity cast into the hole in which the young trees are to be stationed, and mixed with the soil, will be found to have a beneficial effect.—*Selected.*

WEEPING.

Young women are full of tears. They will weep as bitterly for the loss of a new dress as the loss of an old lover. They will weep for any thing or for nothing. They will scold you to death for accidentally tearing a new gown, and weep for spite that they cannot be revenged on you. They will play the coquette in your presence, and weep when you are absent. They will weep because they cannot go to a ball or a tea-party, or because their parents will not permit them to run-away with a blackguard; and they will weep because they cannot have every thing their own way.

Married women weep to conquer. Tears are the most potent arms of matrimonial warfare. If a gruff husband has abused his wife, she weeps, and he repents and promises better behaviour. How many men have gone to bed in wrath, and rise in the morning subdued with tears and a curtain lecture? Women weep to get at their husband's secrets, and they also weep when their own secrets have been revealed. They weep through pride, through vanity, through folly, through cunning, and through weakness. They will weep for a husband's misfortunes, while they scold him. A woman will weep over the dead body of her husband, while her vanity will ask her neighbour how she is fitted with her mourning. The ‘Widow of Ephesus bedewed the grave of her spouse with one eye, while she squinted love to a young soldier with the other.’

Drunkards are much given to weeping.—They will shed tears of bitter repentance this moment and sin the next. It is no uncommon thing to hear them cursing the effects of intemperance, while they are poisoning the cup of indulgence, and gasping to gulp down its contents.

The beggar and the tragedian weeps for a livelihood; they can coin tears and make them pass for the current money of the realm. The one weeps you into a charitable humour, and the other makes you forced to weep along with him. Sympathy bids us believe the one, and curiosity prompts us to support the other. We relieve the beggar when he prefers his claim, and we pay the tragedian before hand. The one weeps whether he will or not, but the other weeps only when he is well paid for it.

Poets are a weeping tribe. They are social in their tears; they would have a whole world to weep along with them. Their sensibility is so exquisite, and their imagination so fantastic, that they make even the material world to sympathise with their sorrows.

The dew on the cheek of the lily is compared to tears on the cheek of a disconsolate maiden; when it glitters on the herbage at twilight, is called the tears of the evening, and when the sun rises and exhales the dew-drops from the flowers, it is said to wipe away the tears of the morning. Thus we have a weeping day and a weeping night.—We have weeping rocks, weeping willows, weeping waterfalls, weeping skies, and, if any signal calamity has befallen a great man, we have, to finish the climax—a weeping world!—*It.*

TO DESTROY RAG WORT.—This obnoxious weed may be effectually destroyed, by about three sheep to the acre being turned into fields where it chiefly grows, in the months of March, April, and May.



To the Editor of The British American Cultivator.

London, (Canada West),
September 12th, 1842. }

Sir,

In the Fall of 1840, I sowed 8 acres of land with rye; the plants looked well in the Spring, excepting about three quarters of an acre where the soil had not been so well prepared, and there the prospect of a crop was so indifferent, that I ploughed it up and sowed oats in the place of it. At the ensuing harvest both the rye and the oats proved to be a very fair crop. It being my intention to give the land a better fallow, it was ploughed that Fall, and received three ploughings during the following summer, and at seed time appeared in very good condition for a crop, and on the 18th of September was sown with wheat. Everything was promising until a short time before the grain came into ear, and then I observed that in spots it began to assume a yellow tinge; these spots increased in extent, and as the time for reaping drew nigh, the field, to a spectator at a distance, presented a black appearance. When harvested it was not all equally bad, but upon the land where the rye grew in the year previous to the fallow, the crop was very miserable. Now, I would have charged the failure to the unusual frosts we had in the month of June, as I know that a considerable quantity of Fall wheat was injured in this section of the country by these frosts; and I would have supposed that mine was the more likely to have been injured in this way, as the seed had only been a short time previous procured from England, and could scarcely be considered so hardy as that which had been so long in the country and has become properly acclimated. But one circumstance prevents me coming to this conclusion, and that is, that where the oats grew instead of rye in 1840, there the wheat was good and the straw of a healthy colour, and not one half so much infested with chaff as the rest of the field, which, I think, will nearly yield as much chaff as wheat. The soil of this field is chiefly a calcareous sand, with a fair admixture of vegetable matter. I do not consider it a first-rate wheat soil, but the land on which the oats grew, is no better than the rest of the field, and scarcely so good as some of it. Now, there being no perceptible difference, (to me at least), between the land that grew the oats and that which grew the rye, the subsequent being precisely the same, the same seed used, and all sown at the same period, how am I to account for the failure of the wheat on the rye land, and the goodness of that on the oat land, but by supposing that the rye crop had exerted on the soil an influence injurious to the growth of the wheat? I have enquired of some of my neighbours the result of their experience in rye growing, and I find that most of them are of opinion that it impoverishes the land more than any other crop. But, according to the experiments of Van Thael, it is no more exhausting in a general way to the land than oats or wheat; and I never heard that it was considered peculiarly injurious to succeeding crops in those parts of the North of Europe where it is most extensively grown. My object in making this communication to you is to endeavour to obtain information through the medium of your Journal, from some one who has had expe-

rience in the growing of rye. At present I do not feel at all partial to the crop, but as it is the first one I ever grew of it; I cannot therefore come to a positive conclusion upon the result of a single trial. For the honour of our Province, I rejoice at the establishment of a respectable Agricultural Journal among us. We all know the poor encouragement that is afforded to agriculture by the present prices of farm produce. If it is expedient that the Canadian farmer be shielded from the competition of a foreign state by fiscal regulations, your Journal presents a fitting opportunity for impressing upon the Government; the necessity of the imposition of these regulations. If our agriculture is to receive no protection of the kind, then we must the more earnestly endeavour to improve the culture of our lands and thus brave the competition. In any case it will be much to the interest of our farmers to support such a Journal as the *Cultivator*, they will thus have the means of exchanging their mutual experience, and of improving the practice of their art; so that in this age of progression, they may not be found among the last in the race.

WILLIAM ELLIOT.

THE NEW TARIFF.

Now that the new Tariff of Sir Robert Peel has opened the English market for salted meat and the produce of the dairy from British America, it may be useful to inquire how we are prepared to benefit by this privilege? Have we rich pastures, such as would be suitable for fattening cattle, or for making good cheese, fit for the English market? We are sorry to say that it would be difficult to find one hundred acres of land that could be properly termed 'rich pasture,' in any county in Eastern Canada. The pastures here are generally land that never was cultivated, or else land that had been in tillage the year previous, without having been sown with grass or clover seeds, and producing as much weeds as useful grass. There may be some fields of better pasture than we describe; but we never have seen in the country ten acres of pasture in one place, that would bear any comparison with the rich pastures in the British Isles; though we believe the land here is naturally of better quality than the land in Britain generally if managed as it is there. It may be answered, that this country is not so suitable, as regards climate, for rich pastures as the British Isles. Every part of it certainly is not; but most farmers have some land that is well calculated to be converted into good pasturage, that would hold good in almost every season. Indeed, there are many sections of the country that if properly managed and shaded with trees, would yield most excellent pasture throughout their whole extent. It is inconsistent to say that the country or climate are unsuitable for good pasture, until judicious measures have been adopted to make land into good pastures, and that these means have failed. We regret that hitherto no encouragement has been held out to fatten cattle or have a large dairy produce, because the home market was closed to us, and the Canadian market was constantly open to, and regularly supplied by a foreign produce. But notwithstanding

these discouragements, it would have been much better, under any circumstances, to allow some of our lands to repose in pasture to recover their fertility; than to keep them constantly ploughed, yielding every alternate year, scanty and weedy crops that would not remunerate the farmer for his seed and labour, at the common wages that is paid for labour. By having land in rich pasture, it is at all times ready to be converted to the most useful purpose. Lands under cultivated grasses in much more valuable in every country, than in any other state whatever. There is a vast difference between the value of land under cultivated grasses, and that which is exhausted of all fertility by constant and slovenly cultivation and cropping with grain, without any regard even to rotation. We hope our brother-farmers will pardon the confidence with which we write on this subject, as it is one in which we had some experience. The raising and fattening of cattle and keeping large dairies, would not require so much expenditure for labour that is at a high rate in proportion to the value of produce as tillage farming. No class of this community are so ill paid for their labour, and have so little profit upon their capital as the agricultural, and this is one cause that has made it unfashionable. Any business by which dollars are acquired and accumulated, will always have the preference to agricultural employment with all who desire to be fashionable; and this withdraws from agricultural pursuits the best educated, and many of the most talented young men, even though their parents should have been farmers, to the very great injury of agriculture. Educated men of talent would be highly useful as agriculturists. We hope the time will arrive that this occupation will offer as much encouragement to men to engage in it as any other trade. When justice is done to it this will be the case. It is an employment of which the most noble as well as those of gentle blood need not be ashamed. We may say more in favour of this occupation than we are justified in doing. We confess we are disposed to attract fashionable people to it, in the hope that by this means, more care and encouragement would be given to it, by those who are in influential situations. By every lawful means we shall constantly endeavour to advance the improvement and prosperity of agriculture; and if we are unsuccessful in our endeavours, we shall have the satisfaction to feel that we have done our duty.

We ought, in humanity, no more to despise a man for the misfortunes of the mind than for those of the body, when they are such as he cannot help; were this thoroughly considered, we should no more laugh at a man for his brains cracked, than for having his head broke.—*Pope*.

When any calamity has been suffered, the first thing to be remembered is, how much has been escaped.—*Dr. Johnson*.

MANURES.

As manure-heaps are the riches of the fields, good farmers will neglect no means of forming them: indeed, it ought to be their daily care—for without manure it is impossible we can have abundant produce in harvest. It is an extraordinary fact, however, that in Eastern Canada, hitherto, a large proportion of the dung made in farmers' yards has been wasted, either by being left for years in the yard, until all its best qualities have evaporated, or by being misapplied when taken from the yard. The poor crops that may be seen with those farmers who act thus, sufficiently proves the prejudice by which they are governed, and the blindness with which they proceed in their labours. It must be from prejudice and blindness that they neglect to make use of their farm-yard manure, because we seldom see crops upon their farms of that luxuriant appearance that would indicate extreme richness and fertility of soil, that would require no manure. We have seen land in possession of those farmers who neglect to make use of their manure, or who sell it, that would require it very much. Strong clay lands in particular that are exhausted and dirty, if summer-fallowed, and lightly dressed with manure, would produce a crop of as much value in one year as it does now in three. These remarks may not be necessary for our Subscribers, as it is not probable that many of them will neglect to make use of all the manure they can procure. We shall, therefore, say no more on the neglect of making use of manure, but rather how we are to procure it in sufficient abundance to keep our lands in fertility.

According to Davy's experiments, the straw of barley contains only two per cent. of substance soluble in water, and having a slight resemblance to mucilage; the remainder consists entirely of fibre, which can be decomposed only after a long time, and under circumstances calculated to facilitate the operation.

Chaptal in his "Agricultural Chemistry," says, "I do not believe that there is in the whole vegetable kingdom, an element affording so little nutriment, either for plants or animals, as the dry straw of grain; serving only to fill the stomach of the latter, and furnishing to the former but about one hundredth part of its weight of soluble manure."

"Many of those who cultivate the land, know only the kinds of straw which are suitable for furnishing manure, and in a dung-hill of litter, consider them as acting the principal part, whereas they are only feeble accessories. Weeds, leaves of trees, and all the succulent plants which grow so abundantly, in ditches, and waste lands, under hedges, and by the road side, if cut or pulled when in flower, and slightly fermented, furnish from twenty to twenty-five times more manure than straw does. These plants, carefully collected, would furnish to the agriculturist an immense resource for enriching his lands. Besides the advantages arising from the manure furnished by these plants, an agriculturist will find it account the dissemination of their seeds, which, by propagating in the fields, deprive the crops of the nourishment of the soil. The turf,

that borders fields and highways, may be made to answer the same purpose, by cutting it up with all the roots and the earth adhering to them, rotting the whole in a heap, and afterwards carrying the mass upon the field, or what is still better, by burning it, and dressing the land with the products of the combustion."

The same author goes on to say: "That if straw did not serve as beds for animals, and did not contribute, at the same time to their health and cleanliness, it would be better to cut the ears of corn and leave the stalks in the field; since they serve only as absorbents of the true manures."

In this opinion we differ from Count Chaptal: because barn-yard manure, besides its nutritive virtues, possesses the advantage of softening hard lands, and rendering them permeable by air and water; and it owes this property almost entirely to the straw which it contains.

We have stated in our Treatise on Agriculture, that straw ploughed into the land, would have a more beneficial effect upon the soil, than the same quantity of straw applied to the same quantity of land, after it had been wet and rolled into manure, provided no other ingredient had been added to the straw, except its having been wet with pure water to cause it to ferment and rot. We think, nevertheless, that the best management is to collect all the straw that is produced, into the barns and farm-yards, and if the straw absorbs the true manures, it will yield this manure again to the crop, after it is ploughed into the soil.

Count Chaptal again observes:—"Besides the characteristic of providing plants with food, the various kinds of dung possess other qualities, which add to their fertilizing powers. Dung, as it is applied to the ground, is never so much decomposed as to have ceased fermenting; and from the moment it is mixed with the soil it produces in it a degree of warmth favourable to vegetation, and serving to guard the young plants against the effects of those sudden returns of cold in the atmospheric temperature, which are so often experienced. On account of the vicious fluids which it contains, dung is not easily dried, unless it be in contact with the air. It therefore preserves the roots of the plants in a state of moisture; and supports vegetation at those periods, when, without it, plants would perish from drought. It likewise contains many salts which are transmitted by water to plants, serving to animate and excite their functions. The various kinds of dung, mixed with earth, may be considered in the light of amendments to the soil; and in this view they ought to vary according to the nature of the earth to be improved.

"Compact soils require to be separated and warmed; they require, then, those manures which have been but slightly fermented, and that are the richest in salts. Calcareous and light earths require only manures, which decompose slowly, and can retain water for a long time, to furnish it to the wants of the plants in seasons of drought.

"It is by separating these principles, that we may be able to appropriate the various kinds of manure to each species of soil and plant; the attention of agriculturists is already directed, upon this point, to the composition of mixtures of manures, called composts. These are formed by arranging, one above another beds of different kinds of manure, taking care to correct the faults of one

by the properties of another, in such a manner as to produce a mixture suited to the soil to be enriched by it. For example, if it be required to form a compost for a clayey or compact soil; the first bed should be made of plaster, gravel, or mortar rubbish; the second of the litter and excrements of horses or sheep; the third of the sweepings of yards, and barns, of lean marl, dry and calcareous; of mud deposited by rivers, of the fecal matter collected upon the farm, the remains of hay, straw, &c., and this in its turn must be covered with a layer of the same materials as the first. Fermentation will take place first in the beds of dung, and the liquor flowing from them will mingle with the materials of the other layers: when the mass exhibits the signs which I have pointed out, as indicating decomposition to be sufficiently advanced, it must be carried into the fields, care being first taken to mix well the substances composing the different layers.

"If the compost be designed to manure a light, porous, and calcareous soil, it must be formed of materials of a very different character. In this case it is necessary that argillaceous principles should prevail; the substances should be compact, the dung of the least heating kind, and the fermentation continued, till the materials form a yielding and glutinous paste; the earths must be clayey, half baked, and pounded, or consisting of fat and argillaceous marl or mud. Of these all the layers should be formed."

LIME AS MANURE.

(Abridged from *The Farmers' Directory*).

The operation of fire on limestone expels certain portions of water and carbonic acid, leaving nearly pure calcareous earth. It neutralizes acid salts, and consequently it will act powerfully on all peat soils, but will not give tenacity to sands, or friability to clay which chalk will effect: when slaked it is of such extraordinary divisibility, that it is capable of much more intimate combination with other substances than either marl or chalk.

The state in which lime is applied, is either fresh from the kiln, while hot, or else after it is slaked.

When newly burned, it is in its most active state, and possesses great power in destroying such animal and vegetable substances as come in contact with it, and is very properly called *quick lime*.

When applied to peaty or boggy earth and all such soils as have remained in an uncultivated state, covered with coarse plants, it is found to be very beneficial, converting them into a mucus, which the atmosphere turns into vegetable mould. It is peculiarly well calculated for grass lands, the produce of which is so sour that the cattle will not touch it, as it destroys all acidity, for instance, if a handful of lime be thrown upon a spot of long rank grass, the cattle will afterwards eat it close to the ground.

It is a well ascertained fact, that land that has been limed, greatly improves the quality of the grain, leaving a thinner skin and yielding much more flour than from ground where it has never been made use of.

The quantity of lime to be applied per acre, varies greatly according to the soil; it should be scattered over, so as to come in contact with the whole of the surface, and in ploughing care should be taken not to plough it in too deep. It is equally beneficial on poor as on rich soils, and requires to be mixed and incorporated with but a small portion of earth to render it highly productive.

From the Transactions of the New York Agricultural Society.

ENGLISH AGRICULTURE—A GLANCE AT ITS PROGRESS AND PROSPECTS — BY JOHN HANNAM, NORTH DEIGHTON, WETHERBY, YORKSHIRE, ENGLAND.

(Continued from our last).

To trace the progress of the practice of agriculture since the period when it was beginning to be considered a branch of natural science, and capable of elucidation by the application of the true rules of philosophy, is not our aim. From the first birth of this principle, as we have already shown, it was some time before it became visible upon the practice. Although in the Elizabethan age, the profession became more fashionable, though Fitzherbert, Tusser, and Platt, the three first writers on the subject, collected the well tried axioms of the ancients, and urged many practices which had been neglected; their works show us what an educated amateur considered ought to be done, rather than what was done in the 16th century; and it was not until the middle of the 17th, that in the writings of Bligh and Weston we see the actual operation of the spirit of change. By the former, (in 1652), we have recommended the cultivation of clover. And by the latter, (1684) the turnip as the winter fodder,—the use of which crops have completely revolutionized the state of agriculture. But it was not till the next century that they came fairly into use; from which time the present practice may be said to date its existence: nor till some time after this, that the triumph of the modern spirit of improvement became fully developed. The bold views of Pult, (1740), gave at once the finish to the new system of cropping, (which arose from the growth of clover and turnips), and a lasting impulse to the principle which had produced the change. In the practical labours of Bakewell, and the Messrs. Culley, and the endeavours of such men as Lord Kames, "to improve agriculture by subjecting it to the test of rational principles." we see the continued influence of the new born spirit of progress, and in the present position of English agriculture, the results of that operation. The nature of this position will be seen in its elevated standing and high estimation as a science, which have secured to it within the last 15 years, the labours of such men as Davy, Sinclair, Daubeny, Henslow, Johnston, Loudon, Lowe, Stephens, Johnson, and Madden, the aid of professors at our universities, and the united efforts of more than three hundred societies, established for the purpose of elucidating truth, discerning error, and promulgating the latest improvement in the theory or the practice of agriculture—societies, too, patronized by all that have a name or standing in the country. Thus the Royal Society of England, though but of three years standing, possesses not merely the suzerainty or passive patronage of royalty, but the active support of that illustrious individual, who, it is reported, is soon to assume the dignity of King Consort,* and of more than five thousand other members.

Its position as a practice exhibits an equal advance. The first and chief evidence of

* This is the report since the Prince of Wales' birth. It is to prevent a confusion of names and the unpleasant circumstance of the son taking precedence of the father. Prince Albert is now a Governor of the Royal Agricultural Society, and has taken into his own hands a farm at Windsor. He was also elected on the 12th of this month, (Decr. 1841), a member of the Smithfield Club.

this which we shall notice, is seen in the change from the old infield and outfield system, and the alternate crop and fallow, or two crops and a fallow, to the present system of drill husbandry, and the rotation of barley, clover, wheat, and fallow upon stiff land; and of barley, clover, wheat, and turnips upon light and dry soils. The first advantage arising from this change on strong land, is the gain of a crop instead of a fallow, and as this crop is one of fodder or pasture, the consequent ability to supply the market with a greater weight of stock; the second is an increase of fertility in the soil, from the increased quantity of manure made upon the farm; the third is a better chance of the wheat crop from its natural liking to fallow clover; and the fourth an increase of fertility in every crop from the drill system, and from the facility with which weeds may be extirpated, half a fallow made, and the soil at the roots of the plant stirred—a practice which theory and experience prove to be highly beneficial to vegetation.

But this is not all; by the introduction of the mangel wurtzel, the carrot, &c., into cultivation, the farmer is at times able to do without a fallow in the rotation. By judicious and effectual drainage, subsoil ploughing, many farmers can grow turnips on this stiff land; and it is yet a *quesio vexata*, whether or not the fallow may not be entirely dispensed with. This is certain, however, that many of the best practical men of the day think it possible, and many upon a few fields which are thoroughly drained, do dispense with the fallow and produce a fair turnip crop. And I have no doubt but that either this or some other green crop will, in the course of time, extend the system, so that the fallow will become the exception and not the rule, for the old idea that the land wants rest is quite abandoned.

The effect of the turnip and clover husbandry upon the light and thin soils of England is still more marked. Without fodder, it is an old axiom, that there is no cattle; without cattle no manure; and without manure no corn. The total abolition of the fallow, and the substitution of two crops of green food, has therefore, upon the light lands, produced in a great degree, those advantages which we have enumerated as having arisen, by a partial adoption of the same system upon the heavy lands of England. Moreover the treading of sheep has a most beneficial effect: so that those soils, which formerly would scarcely return the seed, now produce as fine crops of corn as can be met with in England. The Yorkshire and Lincolnshire woods are startling evidences of the truth of this; and I can look out at the present moment upon 500 acres of thin limestone soil, which 50 years ago paid, and with difficulty, five shillings per acre rent, and which now are let at 25 shillings per acre. That the produce has increased in an equal or greater ratio than the rent, is evidenced by the prosperity of the present tenants. I know also a village a few miles from the city of York, the soil on one side of which is strong and deep, and on the other of light texture upon a limestone base. Not many years ago, several farms of the heavy land were exchanged for twice the number of acres of the high land, the latter being considered very bad. At the present time, however, this *quondam* bad land, by the turnip and seed management, and the use of bones and rape dust, is considered the crack land of the district, and is letting at £2 and £2 10s. per acre, while the heavy soils on the other side of the village are not worth more than fifteen shillings per acre, as they are not drained, and cannot be managed upon the improved system.

But there are several other rotations of cropping used in particular localities; but as they, for the most part, depend upon the same principle as the one we have noticed, they are but exceptions to the general rule, and space will not allow us to particularize them.

The next evidence of the improved practice of the present time is seen in the variety of crops. Wheat is no longer a partial crop—one produced in the garden soils of England—but is the farmer's *paying* crop—Countless varieties of seed are to be found adapted to almost every variety of soil and climate. In barley, oats, beans, peas, tares, rye, potatoes, turnips, carrots, parsnips, mangel wurtzel, hops, lin, and the artificial grasses, the same endless varieties are used, each variety being selected for some peculiar quality. In this small township, last year, I counted no less than fifteen varieties of turnips. Six sorts I myself introduced from the splendid stock of Mr Matson, of Wingham, Kent. None of the sorts had been grown here before, and they have answered so well in what is called a bad year; that I have no doubt but that in a year or two they will be extensively used in this part of the country, to the equal benefit of the purchaser and the producer of the seed. Now, in every article of produce the same improvement is yearly progressing, because farmers are no longer averse to *rational experiments*, and not so much prejudiced in favour of old plans. It is, consequently, worth the while of such men as Mr. Matson, Mr. Skirving, (of Liverpool), *cum multis aliis*, to devote their time, talents, and capital in raising the best and most pure varieties of seed.

In manures we have manifest the results of the same spirit. Along with a greater skill in the economy of the manure heap, an increasing use and saving of the liquid from the cattle yard, and a more judicious application of the various composts which have been employed for ages, we have now in use a variety of hand tillages which are of modern date, at least as far as regards their general use, amongst which we may mention bones, rape dust, nitrate of potash, nitrate of soda, gypsum, urate, common salt, soot, Lauce's carbon, Lauce's humus, Clark's desiccated compost, Poittevin's disinfected manure, Alexander's Chinese manure, rags, graves, soap-ashes, &c., &c.

Of the change in agricultural implements, it is unnecessary to say that it has been wonderful. The transition from the state of things under which the hammer and the axe were the alpha and the omega of the farmer's stock of implements, (when it was a *sine qua non* amongst the ploughman's qualifications to be able to make his own plough), is evident to all. If, however, we look at the advance in the mechanism of implements within the last few years, and take into account the short time in which the several changes have taken place, we shall at once allow the part to be more astonishing than the whole; that the improvements made in the last dozen years are far more marked than all that were made previously. The fact is, that the exhibitions and rewards of our agricultural societies, have given an impetus to the spirit of experimental research in the bosom of the mechanic, and the result is an advance in knowledge equal to that made in any other branch of the practice of agriculture, by the adoption and agency of the same spirit. A practical commentary upon these remarks, is afforded by the fact, that one maker, (Ransom, Ipswich), exhibited no less than thirty-six varieties of ploughs, at the last meeting of the Royal Agricultural Society of England.

In the live stock of the farm, the working and the results of the same spirit are apparent. About ten years after Tull launched boldly the barque of theoretical agriculture, and set open for ever the door of improvement, Mr. Bakewell commenced those experiments upon breeding, which, as he based them upon rational principles, and upon a deep and observing knowledge of the nature of the animals he wished to improve, were attended with the most decided success.— Thus the sheep which he introduced, and the Messrs. Culley carried to perfection, possessed the quality of being fatted at little more than two years old, while the old breed were scarcely ever fit for the shambles till they were twice that age. This advantage was appreciated, for we know that one of his rams was let for the season for 800 guineas, and that the produce of one ewe and one birth, (three rams), were let for 1,200 guineas. His bulls, too, fetched 100 and 150 guineas each. Since this time, breeding has continued to be a branch of agricultural science, by no means attained without time and study and capital. Yet it is still growing more and more popular; and although the gradual diffusion of the sheep and cattle descended from Mr. Bakewell's stock has reduced the prices, a good animal of any pure breed is yet sought after with avidity, and purchased at a sum far above his intrinsic value for any other purpose than breeding. Thus we read that Mr. Jonas Webb, of Babraham, Sussex, let a South Down ram for 100 guineas, to the Duke of Richmond, at his last show; and, (I take the first case which comes to my hand), Mr. Smith of Burley, let fifty-one rams at an average of £10. 4s. each, and twelve at an average of £18. 10s. each. The following statement of the prices, fetched by animals of the Short Horn, Hereford, Sussex, and Devon breeds, at the latest sale of each sort, which we can meet with, will show in what estimation well bred cattle are held. Thus,

SHORT HORNS.

BULLS.

	Guineas.
"Buchan Hero," (prize Bull at Berrick), sold to Messrs. Whittaker and Tempest, for.....	200
Messrs. Higginson & Wilson's "Sir Thomas Fairfax," for.....	155
Mr. Jacques' (Richmond, Yorkshire), "Clementi,".....	150
Mr. Wilson's (Yorkshire), "Young Sir Watkin,".....	100

COWS.

Mr. Jacques' "Mermaid,".....	165
Do. "Golden Drop,".....	160
Do. "Lady Ann,".....	135
Do. "Rachel,".....	100
Mr. Higginson's (Yorkshire), "Amazon,".....	135
Do. Do. "Alexandrina,".....	140
Mr. Wilson's "Brawith Bud,".....	160

CALVES.

Mr. Jacques' bull calf "Dulcimer,".....	105
Do. heifer calf "Hippodamia,".....	60
Do. do. "Purity,".....	51
Mr. Wilson's do. "Snowdrop,".....	60
Do. do. "White Rose,".....	42

HEREFORDS.

BULLS.

Mr. Price's "Tramp,".....	100
Do. "Trueboy,".....	140
Do. "Washington,".....	110
Do. "Murphy Delany,".....	110
Do. "The Rejected,".....	110
Do. "Victory,".....	100

COWS.

Mr. Price's "Wood Pigeon,".....	150
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	Guineas.
Do. "Ceres,".....	115
Do. "Tube Rose,".....	100

CALVES.

Mr. Price's 12 bull calves at an average price of £12. 10 shillings each.
Mr. Price's 10 heifer calves at an average price of £27. 3s. 4d. each.

SUSSEX.

BULLS.

Mr. Putland's old bull,.....	52
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COWS.

Mr. Putland's one at.....	60
Do. do.	50

DEVON.

BULLS.

One of Mr. Quail's (Molland), 18 months.....	97
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COWS.

Do. do. "Comely,".....	53
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CALVES.

One at.....	21½
Do.	18½

At Mr. Parkinson's sale last year, (1840), the cow "Adelaide" sold for 220 guineas, and a bull calf, ("Collard") for 200.

To pigs, if possible, greater attention is paid than to any other animals. The pig is the poor man's stock, and of course is his study, so that a knowledge of his "points" and qualities is more generally diffused than of any other animal. The poor man loves his pig; he looks upon him as his winter food, and it is rare that we find him ignorant of what sort of an animal will turn out well. Rare too, is it, to find the pig badly kept.— The "pig first, and family next," is the motto of many. "We had better be pinched in summer than in winter," was the expression of one who practiced this principle.— Still more rare, therefore, is it to find that the cottager's judgment and care are thrown away. The individual I alluded to above is an instance. The pig, though of the short-eared breed, at 12 months old, took the first premium at the Wetherby meeting, as the "best fat pig;" and at 15 months produced 440 lbs. of bacon.

At the last pig sale in this neighbourhood, four young sows of the Rev. Mr. Higginson, fetched £75; and three, at three months old, sold for £45.

Of the value, however, of our various breeds of swine, the American farmer appears to be aware; hence the large importation of each sort into the new world, and Mr. Allen's tour will not, I presume, diminish the demand.

In breeding and training the horse, the English farmer has attained the highest possible standing. The English race horses and hunters, carriage horses and cart horses, are the admiration of the whole world. The extent of the stock of English horses may be judged from the fact that one English dealer, (Mr. Elmore), has engaged to supply the French government with 2500 cavalry horses in *the months*; and the quality, from the circumstances that though the agreement is now nearly completed, our own stock is so far from being injured, absolutely relieved; (the horses sent being those hybrids, between the hunter and the chapman, which are the breeders' "weeds")— and that even the horses rejected by the inspecting officer, are readily sold at a much higher price than the government gives.— (Vid. Nimrod's Foreign Sporting New Monthly Magazine, No. 250, page 250).

The pure bred animals of each class are kept at home at superior prices; the race

horse varying in price from hundreds to thousands; the hunter from £50. to £200.; the carriage horse from £30. to £100., and the cart horse from £5. to £40.

Of the permanent improvement in the soils of England, which have been made within the last century, but light mention can be made here. Amongst the most important of the means used, are draining, subsoil ploughing, irrigation, and warping. Draining, irrigation, and even subsoil ploughing were no doubt known in the olden time; their extensive adoption, however, as a means of fertilizing the soil, is a modern improvement. Thus, though English farmers have known for ages, *how* to convey water from one place to another by a drain, we do not find that it was ever employed to thoroughly alter the constitution and general temperature of a soil. It was not, then, till the general reactions in the spirit of agriculture took place, till Tull, by fanning the spark into a sudden flame, set others to think as well as himself, and till Bakewell had applied the principle to breeding, that it began to be understood fully. The labours of Dr. Anderson and Mr. Elkington, (1761), showed at once that it was an agent which, if properly used, would be of an immense benefit, and *how it should be used*.— Since that time it has assumed the shape of progressive system, dependent on scientific principles, and as such has improved in its practical details and in its results.

The advantageous effect of draining upon heavy soils, must be just as great as the injurious effect of too much water. What these evil effects are, Professor Johnston, in his Lectures at the Durham University, has shown; and Dr. Madden, in an elaborate paper in the "Quarterly Journal of Agriculture," for this month, (December 1841), shows most beautifully the mechanical as well as the chemical action by which too much moisture injures the vegetative process. To quote from either of these authorities in this hasty sketch, is not in our power.

The good effects of irrigation and warping; both merely systems of applying weak liquid manure in immense quantities, and of the subsoil plough as an instrument by which the water is permitted to diffuse itself more generally through, and the atmosphere to act upon the tenacious subsoil, so as to make a change as it were in the general character of the component parts of the soil,* may also be philosophically demonstrated. But it is in each case unnecessary. We have the proof positive in millions of acres.— Thus the fens of Lincolnshire, Huntingdonshire, and Cambridgeshire, which 50 years ago were stagnant marshes, are now luxuriant pastures; Chat Moss, (Lancashire), in 1820, a yawning morass, and now a golden cornfield, studded with incipient villas,† and the statements of Mr. Denison of Kilnwick Percy, (Transactions of the Yorkshire Agricultural Society), of the Rev. Mr. Craft, (Journal of the Royal English Agricultural Society, vol. 2, p. 32), of Sir James Graham, (Journal of the Royal English Agricultural Society, vol. 1, p. 32), and of the author of British Husbandry, (vide Pamphlet on Land Draining, &c.), exhibiting, as they do, a change from comparative sterility to fertility,

* Vid. Evidence of John Smith, Esqr., inventor of the subsoil plough. Also, "Statement of T. F. Kennedy, M. P.," before committee of the House of Commons, 1837.

† 200,000 acres of the Lincolnshire fens have been reclaimed. In other counties many acres have been similarly reclaimed. 25,000 acres of Deeping fen are drained by two steam engines of 60 and 80 horse power.

‡ Vid. Evidence of M. J. Ellis, before House of Commons, 1837.

from a nominal to a fair rent, are practical evidences of the value of the permanent improvements produced by draining, warping, irrigation, and subsoil ploughing. They are evidences too, which while they profess to record what the system has done for individuals, are really illustrations of what it is doing for all.

Such, then, is the brief sketch of the advance made in the several departments of English agriculture up to the present period. Of the whole progress the one county of Lincoln is a lucid epitome. Divided into three natural portions, the *fens*, the *heaths*, and the *wolds*, the former of which, 50 years ago, was an unprofitable marsh, and the latter, barren sheep-walks or miserable oat-lands; yet now, by the aid of draining, 200,000 acres of the fens are luxuriant pastures, which bear a heavy stock of as fine cattle as can be met with in England; while the wolds and the heaths, by the adoption of the turnip and clover culture, and the use of bones and rape dust, send to the market countless flocks of sheep, and as fine samples of wheat as can be found anywhere.

Thus we learn from the evidence of Mr. R. J. Atkinson, Mr. Francis Isles, and Mr. John Houghton, (vide "Compendium of Evidence before Committee of House of Commons, 1837?"), that on the whole of the lands from *Louth* to *Barton*, where thirty or forty years ago *what was scarcely known*, and the land was, generally speaking, *uncultivated*, much improvement has been made, even within ten years; that 23 to 30 bushels of wheat is an average crop; that it is of a fine quality, and can compete in the markets with that grown on strong lands; also, that when clay land has been drained, in some districts, it will bear green crops.

And the general results of the same agency throughout England are, that wheat, instead of being a luxury confined to the rich, is now the staff of the poor man's strength. The quaking morass and the arid moor wave with the golden grain, and the acre which formerly gave back four times the seed, now returns it from eight to ten fold. Instead, too, of winter being a season of starvation to the cattle, when existence was all that could be hoped for, it is now essentially the season for fat and plenty; for if the turnip cultivation has given the grazer the power of increasing the *quantity*, the skill of the breeder has equally increased the *quality* of his stock. This will be seen from the estimated weight of cattle and sheep at Smithfield market, at three different periods, by Davenant, McCulloch, and Youatt:—

1810. Davenant estimates cattle at 26 st. 6 lbs. Sheep and lambs, 2 stone each.

1830. McCulloch estimates cattle at 39 st. 4 lbs. Sheep and lambs, 3 stone 8 lbs.

1840. Youatt estimates cattle at 46 stone 12 lbs. Sheep and lambs, 6 st. 6 lbs.

But all these may be summed up in one grand national result, that *while we have reaped in name and in numbers we have increased still faster in wealth and in the means of life.*

Such, then, is a brief glance at the progress of English agriculture. Trivial as has been the record which we have been able to give of it, sufficient of both cause and effect has been developed in the history of the past, to make our prophecy for the

*In 1387, the manor farm at Hawstead, (Suffolk), produced on 66 acres only 532 bushels of wheat, or not quite 8½ bushels per acre. The average of England is now 24 bushels per acre. According to the same authority, (Cullum's Hawstead), 26 acres of barley returned 52 qrs. 2 bushels; 62 acres of oats returned 40 qrs. 4 bushels.

future a golden one. Such prospects, we are inclined to believe, are not delusive, not merely because it is natural to look through the past to the prospective, and it is natural also for the object to assume a tinge from the medium through which it is viewed, but because it is an axiom that like causes produce like effects; so the means which have done so much for agriculture, being continued in operation, it is fair to presume will yet do more. And that the same agency will continue to operate, we may the more safely judge, because nearer we look to the present, and more we see its effects. Thus we know that since the commencement of the present century, our produce has increased faster than our population. Between 1800 and 1820 this is evident, but it is more so from 1820 to the present time. Thus even Mr. McCulloch says, "The price of wheat in England, at an average of the ten years ending with 1820, was no less than 83s. 6d. per quarter; its average price has since, as we have just seen, been reduced to 56s. 11½d. per quarter; and yet, notwithstanding this tremendous fall, a most extraordinary improvement has taken place in agriculture since 1820, so much so that we now provide for an additional population, not only without any increase, but with a very considerable diminution of importation."

If we look, however, from 1830 to 1840, we see still more clearly the operation of the spirit of progression; and in the individual and united efforts of the agriculturists, in fostering every germ of improvement, at this present moment, we have a still surer evidence that it is not yet inoperative. If we know, then, that the wheel of improvement has had an *impetus*, and that that impetus has kept increasing up to the present time, may we not conclude that it will not yet stop?

But there is another consideration which induces us to picture bright prospects for agriculture. The progress which has been lately made has not been a progress of extension of the practice merely, but an extension of the knowledge of the science of agriculture; for if we look to the twenty years preceding 1820, we shall find that 1677 enclosure bills were passed, and that 3,068,910 acres of land were brought into cultivation, while in the ten years after 1820, only 186 enclosure bills were passed, and 340,480 acres reclaimed; and yet it is a remarkable fact, that the necessaries of life were more plentiful in the latter period than in the former.

The advance, therefore, that has been made is an advance that cannot be forgotten. It is an *achievement of the mind over the mysteries of matter*; and now, that the fruit of the conquest is tasted, it will incite to other and more extensive exploits.

But while the past performances and present principles of agriculture entitle us to hold out such prospects, and to anticipate with a hope amounting to conviction, that they will be gloriously realized, we must not forget that the brightest object has a shadow. So it is our duty to notice that even now a cloud hangs about the horizon, which by threatening the glory of the day, throws a partial gloom over the brightness of the morning of these prospects. Thus, with a full knowledge of what has been done, and what may yet be done, if be permitted to use the same means, the English farmer is, at the present time repressed in his exertions by a fear which is not without some foundation. The immense efforts made by a certain class to deprive him of the protection, on the faith of which he has buried his capital in the improvement of the soil, is this foundation. It is not our object to discuss the merits or demerits of the free trade theory;

so far, however, as it interferes with the prospects of agriculture, as faithful chroniclers, we must allude to it. And that it should in some degree mar these prospects is not strange, when it is considered that the declared object of the theory is to reduce the price of the English farmer's products to a level with those of the Continent, and the declared effect (vide Lord W. Russell's speech), that two or three millions of acres of land must go out of cultivation; and according to Lord Spencer, that even the *good land* would go out of corn cultivation, and be converted into pasturage.

Knowing, then, these designs, knowing too, that in his present situation in society, with heavily taxed soils, and with dear labour, he cannot compete with the produce of the untaxed soil and cheap labour of the Continent; and that the land upon which he has invested the most capital in improvements or in tillage must suffer first, because the interest of this capital has to be repaid by the increased crop, and because the management of such soils is the most expensive (as natural deficiencies cannot be supplied artificially without expense); knowing, we say this, is it possible for him, at the present time not to feel misgivings to hesitate, and often to finally relinquish those improvements which, were he sure of reaping a fair return for his capital, he would undertake?

Whether or not it be proper national policy to experiment with such a great and important interest, and to produce so much certain evil for an uncertain good; whether or not it be justice to unroof one house to repair another; and whether, or not, Mr. Van Buren's opinion, that "*nothing can compensate a nation for a dependence upon others for the bread they eat*," be a fallacious one, I leave. Thus much, however, we are compelled to say, that the very agitation of the question, and the possibility of a measure being passed by the legislature, which would reduce the farmer's produce to a rate lower than he can afford, has a tendency to mar, in some degree, the present prospects of English agriculture, and to check that spirit of improvement that has already secured to England, along with its fast increasing population, a still *faster increasing* production of the necessaries of life; and *this attained*, it is said, that population is the *measure of a nation's prosperity*; without it, the *index of its ruin*.

Thus, then, is the cloud which by threatening the future condition of agriculture, throws a partial gloom over its present prospects. We say a partial gloom, because we have every assurance that it will soon pass away. The reasons adduced at the commencement of this portion of our subject, incline us to believe that bright prospects have yet to be realized; and a knowledge of the position which the friends of agriculture hold in the country, the exertions which they have made to promote its improvement, and their knowledge of its importance as a national interest, convinces us that this cloud will not be permitted to destroy them. Had this "heavy blow and great discouragement" been contemplated before English agriculture had assumed its present standing, as a science it might perhaps have been carried into effect. It never can now. Ignorance and apathy are no longer the characteristics of the guardians of the soil. The lamps of science shed their light over the once dreary waste, and in it the statesman sows the seeds of national independence and prosperity, and the philosopher finds food for the mind; and it will not be made the subject of an experiment. Never will such a great interest be risked for the sake of trying a novel theory.

This then assumed, what a field opens to our view. By developing the same spirit of progress which actuates modern science, agriculture has become identified in principle, and consequently equally identified in with it. Moved, then, by the spirit, and directed by the pioneers of science, who can point out an end to its progress, or say, "thus far" to its prospects. Before the philosophic mind, whatever may be its favoured sphere of action, there is ample food. In animal and vegetable physiology, in the formation, classification, constitution, and fertilization of soils, and in the elucidation of, and the supplying the wants of vegetation, much has already been accomplished; but our best guarantee that much will yet be done is the fact that much wants doing.

For instance, we know the structure and peculiarities of vegetables, and chemical constitution and mechanical process of vegetation; but we are ignorant of the elements of vitality. We know that certain soils are more fertile than others; we can trace the constituent elements of each, and discover external or mechanical causes influencing the fertility; but of the essential principles of nutrition—the *elixir vita*—or of the combination best adapted to the wants of the vegetable life, we can scarcely be said to know the least. We may apply this ignorance to a single vegetable, to a single soil. How much, then, has to be accomplished before it be removed in toto?

We know something of the uses of animal and vegetable manures; but how can we know their proper economy till the mystery of vegetation is more clearly developed, and the constituents and conditions best adapted to special cases ascertained. Much, in fact, has yet to be developed before the essential elements of the soil, the operation of each constituent, the operation of various manures, and the effects, mechanical and chemical produced by certain crops, are clear to us; yet these must be known before agriculture reaches its fair and legitimate standing as a science, and before we can produce the conditions most essential to fertility.

To the practicalist are duties no less urgent. It is for him to banish from his vocabulary the word best; to think nothing good because it is old, and nothing worthless because it is new; but to lend an observing eye to its proof, and to endeavour to promulgate the truths that practical observation or scientific knowledge may have taught him. For much that is known has yet to be applied to practice. Thus geology has given us a key to the formation, nature, and properties of soils and their basis; and affords us, as is evidenced by Sir J. V. Johnson, (Journal of Royal Agricultural Society of England, vol. 1, p. 273), such practical results, as "1. The knowledge of applying lime. 2. Laying down fields to advantage to grass, and when and how to plant wheat. 3. What trees to plant in each stratum."

Chemical analysis, too, supplies us with the relative proportions of the constituents of the soil, and shows us what element or earth it is deficient in. Geology again teaches us where that element is found; yet how seldom do we find this method of improving the soil resorted to, although Davy long since made known, that "the best natural soils are those of which the materials have been derived from different strata, which have been minutely divided by air and water, and are intimately blended together; and in improving soils artificially, the farmer cannot do better, than imitate the process of nature. The materials necessary for the purpose are seldom far distant; coarseness is often found, immediately on

chalk, and beds of sand and gravel are commonly below clay. The labour of improving the texture is repaid by a great permanent advantage; less manure is required, and its fertility insured; and capital laid out in this way secures for ever the productiveness, and consequently the value of the land." (Lecture, p. 204). Although, too, we are aware, from the writings of agricultural chemists, of the high value of liquid manure—heat, in fact, 1 lb. of urine will produce 1 lb. of wheat, how seldom do we see it preserved at all. A write, in the Prize Essay of the Highland Agricultural Society of Scotland, (Quarterly Journal of Agriculture for this month, December 1841), calculates that as much is lost as would, if applied, have an effect equal to the whole of the lime, rape dust, and bones which are commonly used. J. H.

North Dighton, Wetherby, }
Yorkshire, December 31st, 1841. }

WHEAT FLY.

Professor Low, in his "Elements of Practical Agriculture," notices this insect in the following terms:—

"Certain flies also attack the wheat, at a later stage of its growth. The *Cecidomyia Tritici* is a fly with an orange coloured body and white wings. About the month of June the female ascends the ear of wheat, and deposits her eggs in these by means of a fine trunk, and in a few days she perishes. The progeny being hatched in the ear, feed upon the grain. They are very small, from ten to fourteen being sometimes found in one grain, and are distinguished by being of a bright orange colour. They do not extend beyond the grain in which they have been produced; but several grains being thus consumed on each ear, the damage done is very considerable. The larvæ, after a period, fall down to the earth, in which they burrow, and remain there until the following summer, when they ascend from the earth in the form of the beautiful fly we have mentioned."

Professor Low does not mention any remedy against the ravages of this fly, perhaps because the injury produced by it in Britain is not very general or extensive. The wheat is in ear in England early in June, and the fly seldom appears previous to the 25th of that month, about the same period which it makes its appearance here. This is the circumstance which we believe saves the wheat in Britain from much injury by this insect. There is also more wind, and the crops have a freer circulation of air through them in Britain than in Canada; and the fly never moves from its place of concealment, about the roots of the wheat, unless the weather is perfectly calm. If there is the slightest agitation of the crop by wind, the fly moves not from its place of hiding and repose, and as it is only about sunset in the evening and sunrise in the morning that it goes move to deposit its eggs in the ear. If the weather happens to be windy for a few days about the time of the wheat coming into ear, it may save the crop. The fly can do no harm if the ear is out for a few days; the glums become hard and the fly is unable to pierce it with its trunk. We have already recommended sowing wheat early in the fall, in drills, on land

prepared by summer-fallowing, and limed if possible. If this was to become a general system, and that we were to introduce new varieties of seed that are known to resist the fly, we might raise good crops of wheat in Eastern Canada. But if we still persevere to cultivate in our usual slovenly manner, with our old seed, and growing more weeds than wheat, we can never expect to raise a profitable crop of that grain. We have seen crops of wheat this year, which, if perfectly safe from fly and rust, would not pay for cultivation. These crops were thus bad in consequence of insufficient draining, and injudicious cultivation every way.

BLACK THE WORST COLOUR FOR PAINTING WOOD-WORK IN THE OPEN AIR.—There is nothing that will prove this evil more than by observing the black streaks of a ship after being in a tropical climate for any length of time. It will be found that the wood round the fastenings is in a state of decay, while the white work is as sound as ever; the planks that are painted black will be found split in all directions, while the frequent necessity of caulking a ship in that situation, likewise adds to the common destruction; and I am fully persuaded that a piece of wood painted white will be preserved from perishing as long again, if exposed to the weather, as a similar piece painted black, especially in a tropical climate. I have heard many men of considerable experience say that black is good for nothing on wood, as it possesses no body to exclude the weather. This is, indeed, partly the case; but a far greater evil than this attends the use of black paint, which ought entirely to exclude its use on any work out of doors, viz: its property of absorbing heat. A black unpainted surface is the greatest absorber and radiator of heat known; while a white surface, on the other hand, is a bad absorber and radiator of the same; consequently, black paint is more pernicious to the wood than white. Wood having a black surface, will imbibe considerably more heat in the same temperature of climate, than if that surface was white; from which circumstance we may easily conclude, that the pores of wood of any nature will have a tendency to expand, and read it in all directions, when exposed under such circumstances; the water of course being admitted, causes a gradual and progressive decay, which must be imperceptibly increasing from every change of weather. The remedy to so great an evil is particularly simple, viz: by using white instead of black paint, which not only forms a better surface but is a preventive to the action of heat, and is more impervious to the moisture. The saving of expence would also be immense, and I am convinced that men of practical experience will bear me out in my assertion. — *Transactions of the Society of Arts.*

MUTUAL SUPPORT.—The race of mankind would perish, did they cease to aid each other. From the time that the mother binds the child's head, till the moment that some kind assistant wipes the death-damp from the brow of the dying, we cannot exist without mutual help. All, therefore, that need aid have a right to ask it of their fellow mortals; no one who holds the power of granting can withhold it without guilt. — *Sir W. Scott.*

FATTENING HOGS.

Some time ago, we have seen a report of an experiment made in fattening four young hogs. The experiment commenced on the 1st of December. The hogs were weighed, and two that were to be fed of raw Indian corn, weighed together 185 lbs., and had each daily, one gallon of shelled corn, weighing 7 lbs. The other two hogs weighed together 173 lbs., and had each daily, five pints, or $3\frac{1}{2}$ lbs. of good Indian corn meal, made into hasty pudding by being boiled in water. The hogs were fed twice a day.—The meal when made into hasty pudding, weighed about 30 lbs. The pudding when given in the evening was warm, but that given in the morning, having to stand over for the night, was cold. The hogs were killed and dressed on the 4th of January. Previous to killing, they were weighed, and those fed on the raw corn had together only gained 25 lbs., while those fed on half the weight of cooked meal, had gained 44 lbs. The experiment continued 34 day. The two hogs fed on raw Indian corn, consumed together $8\frac{1}{2}$ bushels, weighing 476 lbs., and increased in weight 25 lbs., giving scarcely 3 lbs. of pork for a bushel of corn consumed. Those fed on the hasty pudding, consumed 5 bushel and ten quarts of cornmeal, and increased in weight 44 lbs. Weight of meal consumed 238 lbs.; hence giving one pound of pork for five pound of meal consumed, or about 8 lbs. of pork for the bushel of cornmeal consumed. This experiment is not very encouraging to farmers.

The following report is from *The Quarterly Journal of Agriculture* :—

"FATTENING OF SWINE.—M. Bengtrapp, in his work on the fattening of swine, mentioned several experiments which serve to show the fattening powers of boiled carrots, potatoes, and some others. He brought up separately, five couples of pigs, and obtained, after a certain length of time, the following results :—

Couples.	Food.	Increase of weight.
1st.	got 103 gallons peas.	22 st. 7 lbs.
2nd.	531 do. balls of wheat.	24 7
3rd.	180 do. buck-wheat.	26 14
4th.	184 do. potatoes.	20 4
5th.	328 do. carrots.	28 2

"These results of the experiment are unsatisfactory: because it is not mentioned whether the pigs were all of the same age and weight, nor is it stated whether the quantity of food marked in the table was as much as the pigs could consume. We have always believed that peas were the most nutritive food that could be given to pigs, and this experiment confirms the belief, as may be seen by comparing the relative increase of weight obtained from the various kinds of food, viz.: 103 gallons of peas gives an increase of 22 stone 7 lbs., or over 3 lb. of increase of pork from 1 gallon of peas; whereas from boiled carrots 28 stone 2 lb. of increase were only obtained from 328 gallons, or near $1\frac{1}{4}$ lb. from one gallon, giving the advantage to the peas in the ratio of about $2\frac{1}{2}$ to 1. The next most nourishing food is buck-wheat, which gives over 2 lb. of pork from one gallon. Boiled potatoes are next, giving $1\frac{1}{2}$ lb. of pork from one gallon. And the lowest quantity of pork obtained was from the balls of wheat, which is as low as about $\frac{1}{3}$ of a lb. from one gallon.

Flour would, no doubt, fatten better than wheat, especially if the feeds were made into small dry balls of dough."

The above experiment will, when compared with one made in the United States, in fattening hogs on Indian corn, serve to show that the latter food is far inferior to the food given in the experiment made in France in fattening hogs. We certainly have some doubts of the accuracy of the French experiment, that the results obtained from the food was too large. We copy it, however, as we have found it reported, altering only the French measure and weight into English, which we think we have done accurately. The Dicalitra, a French measure—we have calculated to be about nine quarts Imperial measure.—There is such a great difference in the reported results obtained from experiments, that we place very little confidence in most of them, unless where the parties are known to us, and the experiments carefully made. The breed of animals will have a great influence on their fattening properties, and therefore, in all cases of experiment, the particular breed should be described, and their shape and properties. There will often be found a great difference in the aptitude to fatten in animals of the same breed. We have scarcely ever seen what we would consider a satisfactory reported experiment. Some most essential points are invariably omitted. Hence we are not often capable of obtaining much useful instruction, that can be relied upon, from reported experiments made in any branch of farming, and we think it greatly owing to such experiments being made by individuals who are not generally practical farmers.

RECEIPT FOR DIPPING FIFTY LAMBS.

One ounce of arsenic to 5 lbs. of soft soap, boiled in 9 gallons of water, then mixed with about 15 gallons or more of cold water, to make it the proper strength, which is ascertained by dipping in a live sheep-tick, and afterwards putting it on the palm of the hand; if it lives about one minute, and then dies, it proves the mixture to be of a proper strength. The dipping trough should be on the inside, 3 feet 6 inches long at top, and 2 feet 9 inches at bottom. Width at top 1 foot 10 inches; at bottom 13 inches; depth $22\frac{1}{2}$ inches. A lid to fall back, which is supported by two legs, high enough to keep it in a slanting position; on this the lamb is laid, after having been in the mixture, and rubbed for a minute; and as rails are fastened to the lid, all that runs, or that is squeezed from the lamb's fleece, returns to the trough. It is scarcely necessary to observe, that the utmost caution must be taken to prevent any accident arising from the use of so large a quantity of so deadly a poison. The vessel used for boiling it, should not be used for any other purpose.—One boiling vessel might do for the use of a whole parish. The time of dipping the lambs in England is when the ewes are shorn, and when most of the ticks in the flock will be destroyed.—*Hallyard's Practical Farming and Grazing.*

THE ROYAL ENGLISH AGRICULTURAL SOCIETY.

Mr. MILES, M. P., presented to the English Agricultural Society, a tabular view of Manures, with an account of their properties and modes of application, drawn up for the use of the agriculturists, by John Robinson, M. B. Lecturer on Agricultural Chemistry and Rural Economy. The author prefixes to his enumeration of manures, an introductory illustration of the two principles on which his theory is founded. The first principle is, that whatever proximate elements are found by analysis in any particular plant, must be again provided for it in the manure which is applied to promote the growth of another individual of its species; and the second, that no substance cannot act as a manure, which is either not applied in a liquid state, or capable of being dissolved by the plant before taken up by it into its pores.

Mr. ROBERT RIGG, F. R. S., addressed to the Council of the Royal English Agricultural Society, a communication on the conditions under which experiments in agricultural science should be made. Mr. Rigg, in this paper, observes :—"Fully persuaded as I am that the reason why agriculture has not derived much benefit from chemical science is, that the experiments upon which the chemical philosopher has based his theories, have not been made in a manner sufficiently practical, that they have been imperfectly examined, that analogy has too frequently supplied the place of inductive evidence; and that the knowledge derived from practical experience has not been sufficiently recognized: and am fully convinced that almost every farming operation will derive benefit from the evidence sought out of well directed experiments, when carefully examined in all their parts. I trust that no endeavour will be wanting on the part of the leading members of our very important society, to induce scientific and practical men to make experiments which have a reference to the discovery of principles applicable to agriculture; that they will use their influence in impressing upon each experimentalist the necessity of attending strictly to what is taught only by each experiment, and not entangle the experiments with existing theories."

The foregoing observations are calculated to instruct experimentalists in Canada as well as in England. Vast benefit may be derived from experiments conducted carefully, and reported exactly as they have been conducted, with the results obtained. Unless this is done, experiments will be useless. We have scarcely ever seen a report of an experiment made in agriculture, that something would not be wanted to enable us to form a correct and clear estimate of the true results of the experiment.

A pleasant and cheerful wife is a rainbow set in the sky, when her husband's mind is tossed with storms and tempests; but a dissatisfied and fretful wife in the hour of trouble, is like a thunder cloud charged with

electric fluid. At such a time, a "wise man will keep clear," if possible, in order to avoid the shock.

THE TURNIP FLY.—I lose no time in communicating to you an unexpected discovery, by means of the microscope, of one of the causes of the failure of turnips, for the fact is of some importance. The farmers' two "enemies" are the fly and the mite. The latter, "tam fera quam minima," as mischievous as minute, is described by Baxter as "a little larger than the cheese mite, and but seldom observed." Numbers of them attack the stem of the infant plant at the surface of the ground, and by extracting the sap, soon destroy it. The farmer sees his crop disappear, and is at a loss to account for the cause. "This insect," adds Baxter, "is most prevalent in newly enclosed land." My own crop of turnips this year, would certainly have fallen a sacrifice to the mite, and the "newly enclosed land" would, of course, have been condemned, had I not fortunately discovered by the microscope, that the almost imperceptible dust, which was thickly sprinkled over the seed, was the very enemy in question. I immediately turned to Baxter, who describes the mischief accurately enough, but is very far from supposing that the sower is to blame; yet this is just the fact, and thousands of mites placed upon a slip of glass, and millions of eggs, to be hatched just in time for the common work of destruction, may give the farmer a lively idea of looking well to his seed before he condemns his land. The process of cleansing the seed is very simple. All that is necessary is to shake the seed rather briskly in a rough linen bag, and then to place it upon a hair sieve, under a stream of water from the pump. The mites, previously killed by friction in the bag, as well as the eggs, are entirely washed away; and the seed, after being placed in the sun to dry, may be drilled without the slightest chance of an attack from the mighty slain.—*J. B. Reade, Stone Vicarage, Aylesbury*

We have found that steeping the seed in a strong decoction of tobacco water, had a good effect in preserving the turnip plant.

CAST-IRON BUILDINGS.—Buildings of cast-iron are daily increasing at a prodigious rate in England, and it appears that houses are about to be constructed of this material.—As the walls will be hollow, it will be easy to warm the buildings by a single stove placed in the kitchen. A three-story house, containing ten or twelve rooms, will not cost more than £1,100, regard being had to the manner in which it may be ornamented.—Houses of this description may be taken to pieces, and transported from one place to another, at an expense of not more than £25. It is said that a large number of cast-iron houses are about to be manufactured in Belgium and England, for the citizens of Hamburg, whose habitations have been burnt.—*Mining Journal.*

POWER OF STEAM.—It is on the rivers, and the boatman may repose on his oars; it is on the highways, and exerts itself along the courses of land conveyance; it is at the bottom of mines, a thousand feet below the earth's surface; it is in the mill and the workshops of the traders. It rows, it pumps, it excavates, it carries, it draws, it lifts, it hammers, it spins, it weaves, it prints.—*Webster's Lectures.*

JEWISH DIVORCE.—Jewish process of divorce, says an old English publication, is

short and unattended with expense. Each party enters the synagogue attended by two priests, where after stating the cause of divorce, the woman is asked if she is willing to part with her husband, on answering in the affirmative, he throws at her the bill of divorce, each spitting in the other's face, and exclaiming "Cursed be they who shall wish to bring us together."

HOME DISTRICT AGRICULTURAL SOCIETY

UNDER THE PATRONAGE OF
His Excellency the Right Hon. Sir Charles Bagot, &c. &c.

PURSUANT TO PUBLIC NOTICE, the Officers of this Society met at the Court House, in the City of Toronto, on the 10th day of August, 1842, for the purpose of making the necessary arrangement for the Autumn Fair and Fat Cattle Show.

The President EDWARD W. THOMPSON, Esqr., Warden for the District, took the Chair, whereupon it was Resolved,—

That the Autumn Fair and Fat Cattle Show, be held at the City of Toronto, upon the piece of ground in front of the New Gaol and Court House, on WEDNESDAY, the twelfth day of October next, when the undermentioned Premiums are to be awarded for the following Stock:—

SHEEP.

Rams.	Best.	Second.	Third.
" One Shear,	£1. 10.	£1.	10s.
" Two Shear,	1. 10.	1.	10s.
" Aged,.....	1. 10.	1.	10s.
" Lamb,.....	0. 15.	10s.	5s.

EWES—PEN OF TWO.

Best	£1. 10.	Second	£1.	Third	10s.
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EWELAMBS—PEN OF TWO.

Best	15s.	Second	10s.	Third	5s.
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YOUNG HORSES.

HORSES UNDER THREE YEARS OLD.

Best	£1. 10.	Second	£1.	Third	10s.
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MARES UNDER THREE YEARS OLD.

Best	£1. 10.	Second	£1.	Third	10s.
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HORSE OR MARE UNDER TWO YEARS OLD.

Best	£1. 10.	Second	£1.	Third	10s.
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SPRING FOAL OR FILLY.

Best	£1. 0.	Second	15s.	Third	7s. 6.
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YOUNG CATTLE.

BULLS UNDER TWO YEARS OLD.

Best	£1. 0.	Second	15s.	Third	10s.
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HEIFERS UNDER TWO YEARS OLD.

Best	£1. 0.	Second	15s.	Third	10s.
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SPRING BULL CALF.

Best	£1. 0.	Second	15s.	Third	10s.
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SPRING HEIFER CALF.

Best	£1. 0.	Second	15s.	Third	10s.
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FAT CATTLE AND SHEEP.

PAIR OF FAT CATTLE REARED AND FED IN THE HOME DISTRICT.

Best	£2. 0.	Second	£1. 10.	Third	£1.
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PEN OF THREE FAT SHEEP FED IN THE HOME DISTRICT.

Best	£1. 10.	Second	£1.	Third	15s.
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SWINE.

BOARS.

Best	£1. 10.	Second	£1.	Third	15s.
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SOWS.

Best	£1. 10.	Second	£1.	Third	15s.
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Persons intending to become competitors for Premiums, are informed that Pens have been constructed for the purpose of confining the different animals, so as to prevent their straying or being unnecessarily driven about; for the temporary use of which the competitors will be charged one shilling and three pence each.

A piece of ground adjoining the Show Yard will be appropriated for the exhibition of Stock for sale, and an Auctioneer will be in attendance to offer the same for disposal.

As an encouragement to those enterprising farmers who have already imported Stock into this Province, and as an inducement to others to follow their example, it has been resolved that if any animal entered for competition be deemed, by the Judges, worthy of the first Prize, and if the owner of the same prove to the satisfaction of the Judges, that such specimen of Stock has been imported from Great Britain since the last Autumn Fair, he shall upon producing certificates of the age and breed of the animal, be entitled to the thanks of the Society, and receive double the amount of the Premium which would be otherwise awarded.

No person shall be allowed to compete for any of the above Premiums, unless he shall have been a member of this Society for at least four months previous to the day of the Fair, or pay the sum of fifteen shillings upon entering his Stock.

The Society have entered into such arrangements in the selection and appointment of Judges, as to prevent any idea of partiality.

No person or persons other than the Officers of the Society, are to interfere with the Judges when in the discharge of their duties, by conversation or otherwise.

In order to prevent any idea of partiality in awarding the Prizes, each competitor for a Premium shall be furnished by the Secretary, (George D. Wells, Esqr.), with a numerical ticket, to be fastened to each animal entered for a Prize.

The Stock in the Show Yard will not until the Premiums are awarded, be known to the Judges by the name of the owner's of graziers, but solely by the tickets and numbers corresponding with the Secretary's list.

The Stock to be on the ground by ten o'clock in the morning, and remain until three, P. M. At 12 o'clock noon, the Judges will commence their duties of inspection and decision.

The names of the successful candidates—the Premiums they shall have received—and for what adjudged—will be publicly announced by the President, at two o'clock, P. M. from the front steps of the old Court House, upon Church Street, and afterwards published.

The Fat Cattle and Sheep must be offered for sale to the Butchers, before the amount of any Premium for the same shall have been paid to their owners.

The Secretary will be in attendance at the Office of Messrs. Wells & FitzGerald, 150 King Street, Toronto, at 10 o'clock, on the morning of the Exhibition, for the purpose of entering the names of, and issuing tickets to the various competitors. At 11 o'clock the Secretary's lists will be closed, after which hour no further entry can be made.

A Ploughing Match.

Instead of a Grain and Root Exhibition, the Society have ordered that a sum not exceeding fifteen pounds be appropriated for Prizes in a Ploughing Match, to take place on Thursday, the 13th day of October next; and that the following Gentlemen, Messrs. Torrance, George D. Wells, Gubb, D. Smilie, and N. Davis, be a Committee to obtain a field of Green sward, and make the necessary arrangements, of which due notice will be given to the public.

N. B. The above Committee will meet at the Office of Messrs. Wells & FitzGerald, 150 King Street, upon Wednesday, the 7th day of September, at 11 o'clock, A. M.

Any person having a suitable Green sward Field within five miles of the City, will have the goodness to give notice of the same to the Secretary, George D. Wells, Esqr., before the 7th day of September next.

GEORGE D. WELLS,
Secretary, H. D. A. S.

MONTREAL DISTRICT AGRICULTURAL SOCIETY.

We were present at a general meeting of the Montreal District Agricultural Society, held at the Court House, on Friday the 10th of September last, pursuant to public advertisement. The meeting was numerously attended, and CHARLES PENNER, Esqr., the President, being called to the Chair, the question submitted to the consideration of the Society was—the expediency of petitioning the Legislature, now in Session, on the subject of Agricultural Protection, and what amount of duties it might be proper to recommend should be imposed on foreign agricultural produce imported into Canada. After considerable discussion, the amount of duties considered necessary was determined upon, being about twenty per cent. on an average on the value of agricultural produce, except wheat and flour, which was left as they stand in the new English Tariff of Sir Robert Peel. Duties were also recommended to be imposed on manufactures from agricultural produce, such as leather, woollen and linen goods, spirits, cordials, and some other articles. Three members were named a Committee to prepare a copy of a petition, &c., and the meeting adjourned to the following Tuesday the 20th of September, to receive the report of this Committee. The Society met on Tuesday pursuant to adjournment, and the petition prepared by the Committee have been approved of, the Secretary was instructed to prepare petitions to the several branches of the Legislature, and that the President and Secretary should affix their signatures to them on behalf of the Society, and forward them forthwith to their proper destination. We were rejoiced to see this respectable Society, come forward unanimously to express their opinion on this subject, that is of so much importance to them, and the interests which they represent. They may be accused of selfish motives, but certainly any favour they ask for or obtain, will be of equal advantage to nine-tenths of the Canadian population. If they ask, not favour, but justice for a class, it is by far the most numerous class in this Province, and one whose interests have been greatly neglected hitherto, though they form the great bulk of the constituency of the country. We trust the time is not far distant when the interests of agriculture will be better cared for, both by agriculturists, and those whom they may elect to represent them.

ENCOURAGE HOME INDUSTRY.

As farmers purchase a considerable quantity of wooden-ware of various descriptions, and occasionally, summer and winter carriages, they would doubtless prefer purchasing whatever they might require in this way, of Canadian manufacture to that which was of foreign. We know that a large quantity of summer and winter carriages, and other articles made of wood, are constantly imported into Canada from the United States, to the very great injury of mechanics in this country. There is a duty upon these articles, but not of sufficient amount to give encouragement to Canadian industry. Farmers are well aware that it will be for their interest, that every other class of this community should be in a thriving and prosperous state as well as themselves. They do not wish for any unfair advantage. They never will ask for a greater degree of protection, than is provided for other classes, and their capital and industry. The agricultural class will rejoice to see every other class in this community in a prosperous condition, provided their own interests are protected and put upon an equal footing with that of other classes. If agriculturists cannot thrive under laws that will afford them equal protection to that which is secured to other interests and professions, they deserve to be poor; but until equal protection is afforded them, they never will consider that they are fairly treated.

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NOTICE TO CORRESPONDENTS.

In our present number will be found two ably and interesting written communications from our highly esteemed friend and correspondent P. L. Simmonds, Esqr., London, England, from whom we have received two other communications, which will appear in our next. We beg to tender him thus publicly our sincere thanks for the unrivalled interest which he has manifested in the prosperity of our Journal and the cause of agriculture in this Province.

The communication of F. Jones came too late for insertion; but will be published in the November number.

On the day previous to going to press, we received a communication from the Hon. Adam Ferguson of the vicinity of Hamilton, giving an interesting account of "The New York State Agricultural Show," lately held at Albany, with other valuable information; which we were unavoidably obliged to postpone until the issue of our next.

We have been requested to state by GEO. D. WELLS, Esqr., Secretary of the Home District Agricultural Society, that the Committee to whom was delegated the selection of a suitable plot of sward, for the purpose of a Ploughing Match on the 12th instant, have deemed it beneficial for the interests of the Society, to postpone the Match until next spring; as the ground at that season, will be in much better condition for the work to show to advantage than in the autumn.

We highly approve of this resolution, and flatter ourselves that the Ploughing Match alluded to, will exhibit a greater variety of implements, and better specimens of ploughing, and the largest assemblage of interested spectators, than ever were in attendance on a similar occasion of the kind in the Province. We will take occasion to advert to this subject again.

ERRATA.—In the advertisement of Messrs. Howitt & Ferguson in our last, on page 144, for Saturday the 15th, read Thursday the 13th of October.

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TORONTO MARKETS:

For the Month ending 1st October, 1842. Flour Farmers, in barrels, 30 0 a 21 6. Wheat, per bushel, 3 6 a 3 9. Barley, do, 1 8 a 2 0. Oats, do, 1 0 a 1 1. Pease, do, 9 0 a 9 6. Clover Seed, do, 25 0 a 30 0. Grass Seed (Timothy), do, 75 0 a 75 0. Potatoes, do, 10 0 a 10 0. Oatmeal, per barrel, 18 6 a 20 0. Salt, do, 10 0 a 10 6. Pork, per 100 lbs., 15 0 a 18 9. Beef, do, 15 0 a 16 3. Mutton and Veal (qr.), per lb., 0 3 a 0 4. Butter, do, 9 10 a 1 0. Turkeys, do, 2 0 a 3 9. Chickens, per couple, 1 0 a 1 6. Eggs, per dozen, 0 5 a 0 6. Hay, per ton, 50 0 a 60 0. Straw, do, 25 0 a 30 0.

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We authorize all Post Masters, all Secretaries of Agricultural Societies, and all Newspaper Proprietors, throughout the Province to act as Agents.

In addition to the above, we kindly solicit country and village Merchants and Farmers, possessing influence in their respective circles to procure subscribers.

Orders will be received at J. Eastwood & Co.'s—Leslie & Brothers—George Leslie & Sons Store,—and at the Star & Transcript Office.

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