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THE  
**Canadian Agriculturist**  
 AND  
 JOURNAL OF THE BOARD OF AGRICULTURE  
 OF UPPER CANADA.

VOL. XV.

TORONTO, OCTOBER, 1863.

No. 10.

**WAR AGAINST THE THISTLES.**

We perceive that a Bill has been introduced by Mr. Stirton into Parliament to prevent the spread of Canada Thistles in Upper Canada, and all true friends of Agriculture must ardently desire to see it speedily become law. Why the Bill should be confined to Upper Canada we are at a loss to conceive, seeing that the Eastern section of the Province is upon the whole more infected with this pernicious weed than the western. A similar law has recently been passed in Pennsylvania, and from recent old country papers we learn that the same complaint is made in various districts of the United Kingdom. The truth is the permitting of thistles and other kinds of weeds among cultivated crops is, perhaps, the greatest of all obstacles to the advancement and profitableness of agricultural pursuits in all parts of the world; and therefore we hail every attempt, whether by the Legislature or otherwise, to prevent, or at least to mitigate, this wide-spread and destructive nuisance. Mr. Stirton's Bill might, perhaps, have been made a little more stringent, and have included all other weeds, the seeds of which are disseminated by the winds. Objections may possibly be raised by a few narrow-minded thinkers, or such as do not think at all, to interference with what they call private rights and privileges; but the question is not, unfortunately, one of mere private or individual concern, inasmuch as it affects the interests of a whole neighborhood. It appears just as right and reasonable that one neighbour should be

allowed to throw his cattle into the fields of another, as to injure the crops of those fields by permitting thistles to grow and ripen; and thus, by the agency of the wind, sow broadcast over them the seed. One would imagine that the good sense and obvious interest of farmers would be sufficient to induce them to use every available means of preventing the spread of such an evil, without legislative interference, but experience unfortunately shows that such is not the case. Let the friends of clean cultivation therefore persevere, and remember that however good a law they may obtain to mitigate or prevent the growth of destructive weeds, *everything will depend upon it's being fully and impartially carried into execution.* The evil is of such a nature that it must be grappled with everywhere, and by everybody. If only one or two farmers in a township, or even a county, allow thistles to ripen, it will take but a very few years before the whole country becomes infected, and consequently the expense of culture increased, and the crops diminished.

The Bill in question imposes a fine on any person who shall knowingly vend any grass or other seed among which there is any seed of the Canada thistle. It would be well if the spirit of this clause could be carried out with reference to the seeds of weeds generally. Too little care, by far, is exercised either by buyer or seller, as to the purity of agricultural seeds generally. Although grain of late years has been cleaned for market than formerly, still one too frequently observes wheat, barley, &c., so mixed

and foul as not only to be wholly unfit for seed, but very seriously deteriorated for commercial purposes. If farmers would exercise proper care, not only in selecting the most suitable varieties of grain for their soil, situation, &c., but also take sufficient pains to clean thoroughly the seed and the land in which it is to be sown, the expense of cultivation would be speedily reduced, and the amount of produce augmented to a degree at present inconceivable. A prevalent and fatal error arises from the foolish desire to buy *cheap* seeds, which are necessarily of inferior quality, and often very much intermixed, and which, in their results, will be found *dear at a gift*.

## THE PROVINCIAL EXHIBITION, 1863.

*Reported for the Agriculturist.*

The Eighteenth Annual Exhibition of the Agricultural Association for Upper Canada was opened at the city of Kingston on Tuesday, the 22nd of September, on the grounds formerly occupied by the Association. The grounds are extensive and well laid out, and the buildings, for size and accommodation, are equal to any in the Province. The cattle sheds also are commodious and well arranged, and the pens for sheep are the best that have ever been provided, the substitution of neat little doors for bars in front being a decided improvement.

The arrangements about the judges were the same as usual, but, on their meeting to enter upon their duties on Tuesday morning, there was, if anything, more than the usual delay in getting to work, for, as the steamers were fully taken up by the conveyance of troops to and from Toronto, all the articles for exhibition had to be forwarded by the Grand Trunk, which not only caused confusion and delay, but also, it is reported, prevented many things from being sent forward at all. It so happened, therefore, from this, as well as from other causes, that though the number of entries was sufficiently large, there were many vacant stalls and empty tables, and in no department was there anything like the show, as far as quantity goes, that was witnessed at the two previous exhibitions. It cannot be denied that this was partly owing to the locality where it was held, there not being there the same wide extent of good farming country that there is in the Western peninsula, and many of our best breeders in the West not

carrying to undertake the trouble, or to bear the expense and the risk, of conveying their stock for so great a distance. This must not however, be understood to convey the idea either of any reflection upon the farmers in central Canada, or upon the quality of the articles exhibited. Among the exhibitors from about Kingston, we notice several new names, and one or two who have shown great spirit both in breeding and importing; and as to show generally, especially of live stock, though the number of animals was small, the quality was proportionately better, for, of course none but the best were brought forward. Another remark it is but fair to make, and that is that through all the country, from Cobourg eastward, the summer was so remarkably dry that it was difficult to obtain even pasture for the cattle. The consequence was that not only were there few animals in condition to show, but, from the failure of the crops, a depression prevailed among the farmers which had a most injurious effect upon the Exhibition, by preventing many from taking that interest in it which they would otherwise have done.

The weather at the opening of the Exhibition was all that could be desired. A shower on the previous day had put the ground in order, and, at first, everything promised extremely well. Unfortunately, however, Wednesday evening the weather broke, rain set in with extreme cold and high wind and the consequence was a woful falling of the number of visitors, and a corresponding diminution in the amount of the receipts.

Entering now upon a more detailed review of the principal articles of exhibition in the Agricultural department, we will commence with the noblest of all domesticated animals.

### HORSES.

In the show of blood stallions we had this year the finest in what has generally been considered the worst feature in the exhibition. It is true, a small number exhibited, being only five, was very great, but so excellent were they all, even in quality, that the judges had some difficulty in coming to a conclusion. Of these five no less than four were recent imports, two from the old country, and two from Kentucky. The former were "The Tester," arrived from England, the property of Col. Douglas, Esq., of Oak Ridges, county of York, and "Birdcatcher," imported by Mr. S. Beattie, of Markham, just before the last exhibition, at which he was shown, but in

wretched condition, after a long voyage in a sailing vessel, as to attract but little notice. The Kentucky horses were "Wagram" a very large and fine animal, owned in Montreal, where he took the first prize at the exhibition held there this year, and "Kennet" owned by E. Arkland, Esq., of Oshawa. The fifth was "Sir Tatton," bred in the Province, got by a well known stallion of the same name, a perfect little horse, with beautiful action, and wanting only in size to enable him to compete with anything upon the ground. The judges, however, very properly made size a very important condition, the want of it having hitherto had a very bad effect upon our blood stock. For the first prize "The Tester" was selected, his size, points, and undoubted blood, placing him beyond competition, though in the opinion of many "Kennet" was not far behind. As the latest importation of English blood we give is pedigree, which shows him to be bred from the best stock now in England.

"The Tester" was got by Melbourne, out of Pickledust, by Lancelot, grand-dam Peridam of Sir Hercules] by Wanderer, Thalestris by Alexander Rival, by Sir Peter, Hermet, Manilla, Goldfinder, Old England Mare, Godolphin, Little Hartley Mare, Bartlett's Childers, Flying Whig, Woodstock Arab, St. Victor Barb, Whynot Mare, Crab, Fox, Bayolton, Newcastle Turk, Byely Turk. Melbourne is sire of Rockingham, winner of St. George; West Australian, winner of both Derby and St. Leger; Blink Bonny winner of the Oaks and Derby; Sir Tatton Sykes, winner of the 2,000 guineas, and St. Leger; Yamba, winner of the Oaks; Thormanby, winner of the Derby, &c."

On the same grounds the second prize was awarded to "Kennet" and the third to "Birdcatcher." Then came one or two entries of good mares and fillies, but not one of them appeared upon the ground.

Of agricultural horses there was a very good show, though we did not hear of any fresh stock. This class has in fact been brought to such a high standard that there is little room for improvement. The best horse in this class as one shown by Mr. Gowland of Seneca.

The animals generally shown in the next class, that of roadsters or carriage horses, have ways been regarded as wanting in many of the qualities which go to make up a perfect horse of the kind, and no doubt a cross of the larger sized blood horses now in the country will be found of the greatest value in supplying the deficiency. Among those shown in

this class there was, however, one which challenged the almost unqualified admiration of all who saw him—a horse called Anglo-Saxon, the property of Mr. Armstrong of Yarmouth. He was certainly the finest animal shown in his class, and in the opinion of the judges the finest upon the ground, for to him was awarded the Prince of Wales' prize of £15, for the best horse of any age or breed. In this class there were a great many entries of carriage and saddle horses, some of which were really very good, and, shown in harness, formed a very attractive feature, though the trotting sulkeys to which many of them were attached gave to the ground rather too much the appearance of a race course to be in strict keeping with our ideas of an agricultural exhibition.

In the class of heavy draughts there were some excellent horses shown, the first prize for stallions being awarded to Mr. Robert Farris of Whitby. The pure Clydes seem to be rather going out of fashion, their place being taken by a horse of equal power, but of less weight and more activity. A two year old filly of this class, shown by Mr. James Logan of Montreal, was one of the finest animals upon the ground.

#### CATTLE.

We have already remarked upon the general nature of this part of the exhibition that while the number exhibited was small, the quality was good. This observation applies equally to all breeds and classes. The Durhams were of course the most popular, but the splendid herds shown at Toronto and Hamilton were sadly missed, and from their absence the casual observer, or one not previously aware of the quantity of good stock in the country, would of course not gain the idea that our progress in this respect has been in reality anything like what it has. Stone, of Guelph, Miller, of Pickering, and Snell of Chinguacousy, had it all pretty much their own way among the Shorthorns, though some few prizes were taken by those who may be classed among the outsiders. In fact, we do not hear that during the past year or two any fresh competitors of note have entered into the lists. There was, therefore, but little requiring special comment, and in fact those who know what Upper Canada really can show must have felt somewhat disappointed.

The Herefords Mr. Stone had all to himself. Besides his there was not a single animal of the breed on the ground. His herd, however,

may well defy competition, for more perfect animals it would be hard to find. Our farmers can hardly be aware of the many valuable qualities of this breed, and their adaptability to many localities, or they would not allow so many prizes to remain in the Treasurer's hands, or to go by default from want of competition.

Upon no class did the locality of the show have more injurious effect than upon that of the Devons, for it so happened that, with a few exceptions, the principal breeders are in the London District, from which not a single animal was sent. The display was therefore confined to the herds of a few spirited breeders east of Toronto, of whom the most successful was Mr. Courtice of Darlington, whose stock are equal to those of any in the country.

In respect of locality Ayrshires fared better than any other breed, for they hold much the same place in the east that Devons do in the west, and at Kingston they made a very fair show. Mr. Wright, of Cobourg, continues to be the principal exhibitor in this class, but he had strong competition from Lower Canada, where there are some excellent animals, the purest perhaps in the country, amongst which those of Mr. Logan, of Montreal, may be specially mentioned. Among other successful breeders in this class may be mentioned the names of Miller and Beattie of Markham, Morton of Morton, Wheeler of Scarborough, and Nimmo of Camden East.

Galloways, though not numerous, were fairly represented, Messrs. Snell, Nimmo, and George Miller being the principal exhibitors. The former breeder has gone extensively into the business, and this year took the largest share of prizes. Several of those who are usually competitors in this class did not appear at all.

Of grades and working cattle there were but few entries, and those that were shown presented nothing worthy of special notice. The Fergus Cup was awarded to W. Miller, of Pickering.

### SHEEP.

The show of sheep was the best of any in the Agricultural department. The Long Woolled varieties are very numerous, and among the exhibitors in this class we find a competitor nearly unknown to Provincial fame, Mr. George Jackson, of the Gore of Toronto, whose entries are very numerous, and whose name figures largely in the prize list. Of Leicesters Messrs. Snell and John and George Miller were the chief exhibitors, but the competition of the Cotswold and other long wool-

ed varieties has placed this variety rather in the back ground.

Cotswolds were, as usual, the most numerous, and here we may remark something worthy of notice, that in this breed, as well as in other long-woolled varieties, Mr. Snell, now one of our most extensive breeders, who has never imported himself, is able to compete successfully with those who are frequently doing so. This fact proves that it is now possible to obtain in the country the material for a flock without going to the risk and expense of fresh importation, whenever it is necessary to change the breed. The chief exhibitors in this class were Messrs. Stone, Snell, and G. Miller. The class of Long woolled, exclusive of Leicesters and Cotswolds, comprises a great variety of cross bred sheep, besides some breeds not in the prize list, such as the Lincoln &c., but however useful such classes may be in bringing in new varieties they certainly tend to produce a certain degree of confusion amongst different breeds. In this class we again find the name of Mr. Snell as one of the principal exhibitors, along with J. and G. Miller, Jackson, and others.

The show of Medium-woolled was not large, but there were some excellent Southdowns from the flocks of Messrs. Stone, Spencer of Whitby, Bethel of Grantham, and Vine of St. Catharines. Mr. Stone's late importations placed him at once in the van of Southdown breeders; this sheep for neatness and symmetry cannot be surpassed, and they have already largely enriched the flocks of other breeders.

Cheviots seem to be somewhat on the increase, being a hardy breed, with good quality of wool and fair size, and therefore well adapted to many parts of the country. The principal breeder is D. Elton, of Grafton, but T. Guy of Oshawa, and G. Miller, also exhibited some well bred animals.

In the next class, that of Medium-woolled, not Cheviots or Southdowns, there was some strong competition between Spencer's Hampshire Downs, and G. Miller's lately imported Shropshire Downs, and the prizes were pretty evenly divided between them. The Shropshire Downs are a splendid breed, in size equal to the Leicester, more compact than the Hampshire Down, and with wool of the lustrous kind now so much in demand.

Merinos and Saxons were not largely represented, and all the prizes were divided between Messrs. Young and Rymal of Hamilton and Arkland of Oshawa.

## PIGS.

The display of pigs was very good, both of large and small breeds, a large contribution being made by Mr. Logan of Montreal. Of the large breeds there were some excellent Yorkshires shown by C. A. Jordan of Sidney, a well-known breeder, James Logan, and J. P. Wheeler of Scarborough. Of large Berkshires, G. R. Morton of Morton, and A. McMillan of the township of Kingston, were the principal exhibitors. Besides these there were some very fine large pigs shown by T. Cavanagh of Watertown, A. C. Clark of Henderson, and by G. Miller of Markham, of a breed called, we think, the Cumberland, which he introduced a few years ago. A few Suffolks of good quality were shown by James Main of Trafalgar, Logan of Montreal, and Geale of Kingston, and some improved Berkshires by G. R. Morton and Col. Thomson. There were some other varieties of small breeds shown, and amongst them a couple of very neat compact little porkers, sent out by the Prince of Wales from the stock bred by his lamented father the late Prince Consort.

## ROOTS, GRAINS, &amp;c.

Of the display of field roots and vegetables the less said the better. It was inferior to what any county in Upper Canada ought to be able to produce. There were of course some good specimens, but they were very few, and most of the articles should have been kept at home. They did not fill a quarter of the space allotted to them, and on the second day of the Exhibition were removed to the main building, where they helped to make up the deficiencies there.

The entries of grain were far less than usual, but what was shown was of good quality, and up to the usual standard. We did not, however, notice anything in the class worthy of special observation.

## FRUIT AND FLOWERS.

The show of fruit was also very inferior, and, but for the magnificent collection of Mr. Beadle of St. Catharines, would hardly have been worth notice. The Flowers did not show to advantage, as those from a distance had evidently been a good deal damaged by carriage. In fact it is from this cause almost impossible to get a really good show of flowers at our Provincial Exhibitions. M. Flavignon of Kingston, Prof. Hirschfelder and Jas. Fleming of Toronto, R. Curry of Brockville, B. Losee of Cobourg, were the principal exhibitors.

## FLAX.

The introduction of the great staples of Flax and Hemp into the prize list of the Association marks a new era in our agricultural progress. The results of the experiment seem to prove conclusively that we need no longer be entirely dependent upon wheat as the mainstay of our commerce, that in flax we have a production for which there is a certain market, which can be grown with profit, and which is not liable to any of those scourges which, combined with bad husbandry, have rendered the wheat crop so precarious a basis for our farming operations. To show the extent to which the cultivation of this article has already reached, it is calculated that during the last season there were ten thousand acres in Upper and Lower Canada planted with it. The Messrs. Lyman of Montreal, who are large manufacturers of oil and cake, were able to purchase thirty thousand bushels of Canadian seed, and the coming season they hope to be able to purchase double the quantity. This at seven and-sixpence per bushel would represent nearly twenty five thousand pounds, or ninety thousand dollars, which otherwise would be expended in enriching the flax growers of some foreign country. To give an idea of the profits of flax growing we quote the following figures, for which we are indebted to Mr. Donaldson, late government emigration agent in Ireland, and to whom we are mainly indebted for the introduction of this valuable crop. The average quantity of scutched flax which an acre will produce is from four to five hundred weight, worth from three to four pounds per hundred in this country. Taking the lowest figures, this makes the produce per acre worth twelve pounds. Deduct from this seven and-sixpence per hundred weight for scutching, which will give you a net return of ten pounds ten shillings per acre, or forty-two dollars, the expense of cultivation not being greater than that of any other crop. This is exclusive of the value of the seed. Set this against the average return of wheat at present prices and with the best possible cultivation, and the result will clearly be in favour of the flax. Of course we do not urge the cultivation of flax as a substitute for wheat, but as an additional crop on which the farmer may rely to bring him in a certain sum of money, and thus save him from being, as heretofore, altogether dependent upon one crop liable to so many disasters.

There were this year at the Exhibition five exhibitors of flax and seven entries, against

three last year. The samples shown had all been scutched in the mills brought out by government, and were declared by competent judges to be sufficiently good to enter into any market in the world. To show the farmers what could be produced by care and cultivation, Mr. Donaldson had samples of flax from Ireland, Belgium, and France, of various qualities, that from Courtrai in France being worth *one hundred and seventy Pounds, sterling, per ton*, or more than double what ours would be. Of hemp there were two samples shown, both of which were of immense length, and appeared to be of fine quality, but of them we cannot give the same particulars that we have of the flax.

### AGRICULTURAL IMPLEMENTS.

The show of these articles was very fair, though we missed the agricultural engines so numerous exhibited on previous occasions. There was a large variety of mowing and reaping machines from the factories of the Pattersons of Belleville, and Hall of Oshawa, but as none of them were tested it was impossible for a mere observer to form any idea of their respective merits. There were two or three threshing machines of the usual pattern, a couple of stump machines of a novel construction, a large variety of grain and turnip drills, chaff cutters, cultivators, horse hoes, single and double mould-board ploughs of wood and iron. In addition to these, few of which presented any new features, there was one machine deserving of special attention. This was Chase's American tile ditcher, invented and patented by J. Chase, and now manufactured by him at the works of Messrs. Hall of Oshawa; without a drawing it would be difficult to describe it correctly, but it consists of an oblong frame of wood resting on four broad wheels, with a pole for two horses attached to the front. A long narrow iron box terminating in a steel spade is hung from the centre of the upper part of the rear end of the frame, so as nearly to touch the ground in front, where it is kept in its place by a strong piece of iron work passing up through the frame, by which the spade is raised or lowered at pleasure. Along the bottom of the box an endless chain with buckets passes, going over a pulley at the hinder end. When the machine is to be set at work a pair of horses are attached in the usual way to the pole, the spade is let into the ground to a greater or lesser depth according to the nature of the soil, the earth is scooped up by it to the proper width of the drain, and

carried by the chain of buckets which the wheels set in motion over the pulley at the back, and falling into a slanting spout deposited at the side of the drain. One cut having thus been made of the required distance, the machine is turned round and travels back, this time depositing the soil on the opposite side and so on, by successive acts, till the necessary depth has been gained. When the drain has thus been dug the excavator is taken off and another long box with a curve at the lower end which is let down to the bottom of the drain put in its place. The tiles are put in this box one on top of another, the machine set in motion, the tiles forced out of the box or tube by their own weight, are neatly laid along the drain with the ends closely pressed together, and as each tile is thus laid a little earth is, by an ingenious contrivance, thrown upon it, thus securing it in its place. We were assured that the machine had been tested and was found to work well, and no doubt if it answers the expectations formed of it, it will be found of great value. It is said that by this machine, with a man and a pair of horses, one hundred rods of drain can be cut and laid in a day in any ordinary soil.

One drain tile machine of a simple and apparently effective construction was exhibited by Lindsay of Newcastle.

The ploughs, of which there was hardly the usual variety, were tried in a field adjoining the show ground, but it must be observed that the soil was so dry and hard that the draft was much greater than it would have been under more favourable circumstances, while the quality of the work was equally affected. The following is the draft of the prize ploughs of wood and iron, which were tested separately, the depth of the furrow being six inches, with a width of nine inches:—

#### IRON PLOUGHS.

William Mahaffey, Brampton,	draft 425lb.
James Jeffrey, Petite Cote, (L.C.)	“ 503 “
George Morley, Thorold,	“ 520 “

#### WOODEN PLOUGHS.

George Morley, Thorold,	draft 570lbs
T. Modeland, Brampton,	“ 581 “
Wm. Mahaffey, “	“ 600 “

Besides the articles above enumerated, there were a number of smaller ones, such as churns, scythe snaths, &c., all displaying more or less ingenuity, but the qualities of which could only be proved by practical trial. The varieties of churns now made are endless.

but all are mere modifications of some principle long in use. And after all it is questionable how far the so-called improvements are really effective, for we have frequently seen those which theoretically seemed unimpeachable, utterly fail when brought into practice. A scythe snath of novel construction, made by E. Roblin of Sophiasburg, is worthy of notice. It was curved so as to form with the blade a complete segment of a circle. The maker alleges that it gave a much wider and as cleaner cut with less labour than the ordinary scythe, and in proof of that he produced a testimonial signed by a number of farmers by whom it had been tried.

The want of shelter for the larger class of implements was much felt when the rains set in on the last days of the exhibition, for not only did it prevent them from being examined by any but very enthusiastic agriculturists, but was productive of much injury to those that were highly finished.

Besides that portion of the exhibition peculiarly agricultural, there was in the main building a large and varied assortment of manufactured articles of more or less importance, and all proving that every year the Province is advancing as a manufacturing country. Into this part of the show it is not our province to enter, and we need only remark that while, like the rest, the number of articles shown was comparatively small, they were generally of excellent quality, and proved the existence of great proficiency in many important branches of trade.

Owing to the bad weather the close of the exhibition was rather tame, and the articles were removed with more than the usual haste to be off homewards.

On Friday Morning the annual meeting of delegates took place. The code of bye-laws already published in the *Agriculturist* was adopted without amendment. The election of officers then took place. Mr. Johnson, the first Vice President was elected President, his place being, in the usual rotation, filled by Mr. Rykert, the Second Vice. For the office of Second Vice President several persons were named, the principal being Col. Saunders of Guelph, and Mr. McGillivray of Glengary. After a sharp but good-humoured contest the latter was elected by a small majority.

The question of the next place of meeting was then brought up. A long discussion took place as to the expediency of confining the ex-

hibitions as heretofore to Kingston, Toronto, Hamilton, and London, and claims were put in by the towns of Guelph and Belleville, each of which made liberal offers. The question was ably debated on both sides, but finally the present system was sustained, and the claims of Hamilton established by a considerable majority.

At two o'clock the retiring President delivered a brief but able address, and thus closed the Exhibition of 1863.

### THE ANNUAL MEETING.

The Annual Meeting of the Directors of the Agricultural Association took place on Friday, 25th September, at 10 a.m., in the Committee Room on the Show Grounds. The following directors being present:

#### MEMBERS OF THE BOARD OF AGRICULTURE:

Messrs. E. W. Thomson, H. Ruttan, Hon. Asa Burnham, Hon. D. Christie, R. L. Denison, Dr. Richmond, Professor Buckland.

#### MEMBERS OF THE BOARD OF ARTS AND MANUFACTURES:

Dr. Beatty, Messrs. S. Sharp, T. McIlwraith, A. McCallum, Thomas Hilton, H. M. Melville, W. Michael, T. B. Harris, T. J. Rastick, T. Sheldrick, E. A. McNaughton.

#### DELEGATES FROM AGRICULTURAL SOCIETIES.

Addington,—M. Lake, John Sharp.  
 Brant West,—Daniel Perley, Chas. Chapin.  
 Brockville,—J. W. Hough.  
 Dundas (Co.)—I. N. Rose.  
 Durham East,—Nathan Choate,  
 Elgin East,—James Armstrong.  
 Elgin West,—H. D. Smith.  
 Frontenac,—James Daly, E. J. Barker.  
 Glengarry,—N. J. McGillivray, D. Campbell.  
 Grenville South,—James Keeler.  
 Halton,—Joseph Kirby.  
 Hamilton,—Peter Grant, Wm. Hendrie.  
 Hastings North,—James Archibald, M. Kerr.  
 Hastings South,—George Taylor, S. D. Farley.  
 Huron,—George Girvin, Thos. Anderson.  
 Kent,—David Wilson.  
 Kingston,—M. Flanigan, W. B. Simpson.  
 Lanark North,—John Menzies, Jno. Baird.  
 Lanark South,—W. O. Buell, John Hart.  
 Lennox,—Wm. Gibbard, O. T. Pruyne.  
 Lincoln,—J. C. Rykert, Eli Gregory.  
 Middlesex East,—Alexander Kerr.



Middlesex West,—Allen Bogue, James Craig.

Niagara,—S. J. J. Brown, G. J. Miller.

Norfolk,—William McMichael, Roger Chrysler.

Northumberland East,—W. Humphris.

Northumberland West,—Chas. Bowen.

Ontario North,—Robert Spears.

Ontario South,—John Shier, J. H. Perry.

Peel,—John Tilt, R. A. Hastley.

Perth,—Joseph Salkeld.

Prince Edward,—W. N. Bedell, Robert Werden.

Russell,—Ira Morgan.

Simcoe North,—W. F. O'Brien.

Toronto,—J. D. Humphreys.

Welland,—Edward Jones.

Wellington South,—Robt. Lingwood, Matthew Anderson.

Wellington South,—Arthur Hogge, Wm. Benham.

Wentworth North,—Thomas Stock.

Wentworth South,—Jacob Rymal, Alex. Young.

York North,—Francis Smith.

York West,—E. C. Fisher.

DELEGATE FROM HORTICULTURAL SOCIETIES:  
Hamilton,—John A. Bruce.

Hon. Asa A. Burnham, President of the Association, in the Chair.

Mr. Hugh C. Thomson, Secretary to the Board of Agriculture, Secretary.

Col. Thomson moved the adoption of the code of by-laws laid over from last annual meeting. He said that they had been before the public for two years, and were thoroughly discussed at last meeting.

Mr. Rykert moved that the latter part of the seventh section of the by-law be expunged. It provided that the Exhibition should only be held in accordance with the provisions of "the rule adopted at the annual meeting of 1858." That rule said that the Fair should only be held at places where permanent buildings were erected.

Col. Thomson defended the rule.

Hon. Mr. Ruttan said if the words "permanent buildings" were expunged, the views of most gentlemen would be met. He urged the necessity of holding the meetings of the Association at more than two or three places.

Hon. D. Christie said Mr. Ruttan had stated properly that the Association had no right to pass by-laws in opposition to the statute law. But he had not shown that the resolution requiring permanent buildings was contrary to the Act. The law gave power to choose the place; the resolution said those places at which there were not suitable buildings should not be selected. He held that permanent buildings

were the only suitable buildings. Look at what had occurred at this Exhibition. How would the Association be able to pay its way in Kingston, for instance, if they had this year been required to spend a large sum of money on the buildings? The time might come when the Association would be able to go beyond the four places at which the Exhibition was held, but it could not be done now; it was not sufficiently wealthy.

Dr. Beatty concurred in the views of Mr. Christie.

Mr. Rykert said the resolution was contrary to public opinion. Contrary, at any rate, to the wishes of the agricultural population of Upper Canada. What good had been done by the permanent buildings to the Association? Where was the money that had been lent to the cities? They were complaining to-day that they were five or six thousand dollars out of pocket because the Exhibition was a poor one. What good had the Kingston permanent buildings done them?

Mr. O'Brien complained that the interests of the farmers were overlooked and hampered by the erection of "crystal palaces," which were not needed for the exhibition of agricultural products.

Mr. McNaughton contended that much material good was done by intercourse between the agricultural and manufacturing portions of the population.

The amendment was then put and lost by large majority.

The original motion was carried.

Dr. Beatty moved that Mr. James Johnson of East Middlesex, 1st Vice-President, be President of the Association for the coming year.

Hon. Mr. Ruttan seconded the motion.

Carried.

Mr. McNaughton, seconded by Mr. G. Miller, moved that Mr. Rykert be 1st Vice-President.—Carried.

Mr. Stock, seconded by Mr. Perley, moved that Mr. Thomas Saunders, of Guilph, be 2nd Vice.

Mr. Campbell, seconded by Mr. Morgan, moved that Mr. Neil McGillivray, of Glengau, be 2nd Vice.

The following gentlemen were also nominated:—

Mr. S. S. Wilmot, of West Durham.

Mr. Sidney Warner, of Frontenac.

Mr. J. P. Wheeler, of York.

Hon. James Skead, of Ottawa.

Hon. John Simpson, of Durham.

Mr. John Flanigan, of Frontenac.

The President called for a show of hands for each nominee, with the following result:

Mr. Saunders received 29 votes; Mr. McGillivray, 26; Mr. Warner, 21; Mr. Wilmot, 1; Mr. Wood, 20; Mr. Skead, 18; Mr. Flanigan, 22; Mr. J. P. Wheeler, 8; Hon. J. Simpson, 10.

It was then decided that all the candidates

who had received under 20 votes should be dropped. The voting was then proceeded with.

Mr. Saunders received 36, Mr. McGillivray 3, Mr. Warner 15, Mr. Wood 10, and Mr. Lanigan 14 votes.

A division was then taken between Mr. Saunders and Mr. McGillivray.

Mr. Saunders received 37 votes. Mr. McGillivray got 40 votes, and was declared elected.

Colonel Denison was re-appointed Treasurer. Mr. Farley moved that Belleville be the place of exhibition in 1864.

Mr. D. Perley, seconded by Mr. J. Rymal, moved that Hamilton be selected.

Mr. Gough, seconded by Mr. Tilt, moved that the town of Guelph be chosen.

Deputations from the places named were then admitted, in order that they might state the advantages held out by their several localities.

The deputation from Belleville was first called upon.

Mr. Wood, (Warden), spoke for the county. The Council was ready to assist the town, to enable it to erect proper buildings. They placed the claim of Belleville upon the fact that it was the centre of a large agricultural district, which had not yet had the honour of the Exhibition.

Mr. Brown, the Mayor of Belleville, said the town would join the county in guaranteeing to the Association any necessary erections. The town had guaranteed \$4,000, the county \$4,000, and a private subscription was being got up.

Mr. Sheriff Taylor said that the subscriptions in the town amounted to \$5,000.

Mr. McElroy (Mayor) spoke for Hamilton. He was authorized to make an offer of the buildings already existing. He had the authority of the commander-in-chief for saying that the troops would be removed when the "Palace" was wanted. Moreover, the railways had agreed to carry people and goods for one fare.

Mr. Rykert asked if Hamilton was prepared to repay the money she had borrowed from the Association.

Mr. McElroy did not know that Hamilton had borrowed any.

Colonel Thomson explained that the Crystal Palace Committee, being a Committee of the City Council of Hamilton, borrowed in 1860 \$2,000 to enable them to pay their workmen, under promise that it would be repaid in a fortnight. But the Association had not yet been able to recover the amount.

Mr. McElroy said there was no record of the case on the minutes of the Council. But if it were really true that the money had been borrowed, the citizens would be willing to repay it.

Mr. Peterson, Mayor of Guelph, spoke on behalf of that town. The Corporation was prepared to offer buildings sufficient for the Association; and the County Council had

voted \$4,000 upon the express understanding that those buildings should be permanent. He contended that the hotel accommodation was very good, and that there was plenty of it.

Mr. Elliott (Warden) spoke of the geographical position of Wellington, the centre of the large agricultural peninsula of Western Canada, with all sections of which it was connected by rail. The County Council had guaranteed \$4,000 to aid in erecting permanent buildings, and the Reeves had held meetings in the townships, at which about \$8,000 more had been voted.

The vote was then taken. The motion in favor of Guelph was lost, as was also that for Belleville. Hamilton was carried by a majority of about two-thirds or three-fifths of the meeting.

The President stated that the amendment to the Agricultural Act was to be considered.

Hon. D. Christie suggested that as action was to be taken by the Government on the subject, it would be well, perhaps, if the Association would express an opinion on the Bill drafted at the meeting of delegates in Toronto, and which had been extensively published.

Mr. Stock, seconded by Mr. Tilt, moved that the Association record its opinion in favour of the said draft.

Carried.

The usual votes of thanks were then carried, and the meeting adjourned.

### THE PRESIDENTS ADDRESS.

At two p. m. on Friday the 25th, the President of the Association, the Hon. Asa Burnham, delivered the following Address from the principal Stand on the grounds:—

GENTLEMEN—It has been the usual custom at our annual meetings for the President of the Agricultural Association to read you an address before the meeting breaks up. In following up this rule I do not propose to make a lengthy one. After the able addresses which have been delivered from year to year, I shall only endeavor to make a few practical remarks. On occasions of this kind, it is encouraging to see so many sturdy and intelligent men gathered together from all parts of the Province to display their stock and agricultural and mechanical products, and thereby advancing the general interests of the country. When we meet at these periodical gatherings, we should endeavor to have a mutual exchange of ideas, which in many cases would prove highly beneficial to us all. It is only by practice, experience, and a close observation of what is going on around us, that we can ever expect to attain a high position in our different callings. When we look about and see the trials and difficulties in which

other countries are involved we have strong reasons to be thankful, and should not forget the debt of gratitude we owe to God for the peace and quietness which reign in our land, and for the bountiful harvest we have just gathered in. While we have reason to congratulate ourselves on the rapid strides which the farmers of Canada are making in the improvement of stock and in the cultivation of the soil, we should remember that there is still a wide field for improvement before us, and that every effort should be made to bring about a further improvement. We see in all the learned professions, as they are called, continued efforts are being made to advance them; and why should not farmers go and do likewise? The truth is, there is not that unity of action and mutual exchange of ideas kept up between them which could and should be, and which, if properly and freely made, would produce the most beneficial results. There seems to be too great a desire among our young men to desert the farm and follow, as they say, some more respectable calling. It would appear as if they were ashamed to be seen holding the plough, or using the axe or the scythe, but prefer leading a careless, idle, and in many cases dissolute life in towns and cities, which often ends in premature death, caused by intemperance and vice. It is quite true that the husbandman must toil early and late if he would succeed; but who, I would ask, enjoys health and life more than he does? Although his bodily labor be severe at some seasons, yet he lies down at night with his mind at ease, and rises up in the morning fresh and vigorous for a renewal of his daily labors, with his mind free from the anxiety of providing for the payment of bills, which the business man has to meet, and which in many cases he finds difficulty in doing. Although the husbandman may appear to get on in the world but slowly, yet, with industry, perseverance and economy, he can move on through life and enjoy a competency, which but few mercantile men, with all their toil and anxiety, can attain. In this, as most other countries, agriculture must be the occupation followed by the mass of the people, and if those employed in it would but join together as they might, many of our present evils could be avoided. Then let us join hand in hand, and endeavor, by every means within our reach, to advance the agricultural interests of our country. How, then, can we do this most effectually? It is evident we must encourage our young men to engage in it, and by our

advice and countenance urge them on in this noble calling. Many strange opinions exist in reference to the education of our sons in order to fit them for farmers. Some argue that little or no education is required to enable a man to carry on a farm successfully and that view of the matter, many young men are sent out into the world with little or none. This is a serious mistake, and one which can be easily remedied in this country, where education is so accessible to all. Do not let it be said that labor and education should not go together. Give your sons a good sound education, and then, with proper encouragement, you will induce them to follow your own noble calling, and seek employment on the farm, comforting you in the evening of life instead of congregating in cities and towns, spending their lives in idle and dissolute habits, and in many cases ending in premature death. I would not desire it to be understood that every man will attain to a high position in farming, but he who possesses an intelligent and well developed mind is quite sure to take a leading place among his fellow agriculturists. Every farmer should be one by practice as well as by theory, in order to direct his men how to work and be able to judge when it is done properly and with economy. He should also be able to decide what crops are best adapted to different soils, in order to obtain the most profitable returns for his labour. A sound judgement should be exercised in cropping our land, in order to obtain the most profitable results. I am satisfied that of late years our farmers have sown wheat oftener than they should on the same ground. By this practice the soil becomes reduced and requires extra manure and tillage to bring it back to its usual fertility. I would therefore call your attention to this (as I consider) bad practice. I wish to draw your particular attention to the cultivation of flax. It is now being successfully cultivated in some parts of the Province, and as a considerable portion of our land is well adapted to the growth of it, and the prices range high, I would urge on you the cultivation of it as a valuable and remunerating crop. Formerly there was a difficulty in getting it prepared for the market, but this has been remedied by the importation of mills from Ireland for that purpose, which have done the work well, and will no doubt be the cause of encouraging its growth, in consequence of the facility and cheapness of preparing it for market. The root crop is one which should receive particular attention from us all, and is

of great importance to every farmer. In the first place it prepares the land for wheat, barley or flax, by working and cleaning it; and, secondly, in providing food for fattening stock, and is of the utmost necessity in keeping them in a healthy and thriving condition through our long and dreary winters. The greatest judgment should be given to the selection of good stock, and the purest and best variety of grain should be selected, as it costs no more to cultivate it than a mixed one. Your experience must have taught you that clean pure grain always commands an extra price in market. Just so with stock; a good animal will be raised as cheap as an ordinary one, and will sell for double the money. Let it be your rule to do everything well and in season; if you do not, depend upon it failure and disappointment will be the result. The subject of draining is one which should receive your best attention, because when properly carried out it produces the most beneficial results; and much of our flat moist land, with proper drainage, would produce fifty per cent more than at present. As drain tiles are now being made in many parts of the Province and sold at a moderate price, I have no doubt that the drainage of our land will be increased from year to year, and will in time prove of incalculable benefit to the country. We cannot expect at the onset to enlist the feelings of any considerable number; it is only by bringing it practically before the people and showing them the utility of it, that one can expect to enlist their sympathy in the undertaking. Owing to the boisterous weather on the Lake and crowd on the steamers, and the difficulty in getting articles forward by rail, some stock and many articles intended for the Exhibition did not reach the Show ground, which has caused a deficiency in some departments; but on the whole, the Exhibition may be considered a very fair one.

The eighteenth Provincial Exhibition was then declared to be closed, and the exhibitors proceeded to remove their goods from the grounds.

#### AGRICULTURAL EXHIBITIONS.—JAS. McILQUHAM'S FARM STEADING.

*For the Agriculturist.*

This is the season for agricultural exhibitions. Around Perth we have the Almonte, Brockville, and S. Lanark exhibitions to come off. At Montreal and Kingston, the Provincial ones. All this augurs well for the country,

and implies progress in a great and leading department. The farmer is waking up, and Canada will be great when he is great. When the Canadian farmer becomes distinguished and notable among the world's best cultivators of the soil, Canada will become so too. In view of this fact, we thought it an unwise attempt at public economy and retrenchment, when a late Finance Minister talked of taking off 25 per cent. of the grant to agricultural societies.

The present finance minister has announced that the grant will be continued (at least, so we understand him) as before. It might better be increased than diminished. Let Farmers look to it, that their great and vital branch of industry is not pared down; cast off and neglected by any set of rulers who may be placed over us. A little more attention might well be devoted by our Legislators, to the promotion of agricultural interests.

But our object in writing at present, is to call attention to the ingenuity and practical skill of one of our Drummond farmers, as yet unknown to fame in the great West. On Lot No. 7, in the 10th Concession of Drummond, about 9 miles from Perth, on the banks of our beautiful little river, the Mississippi, resides Mr. James McIlquham, Jr., son of one of our old veteran farmers, James McIlquham, Sen., now 77 years of age, who came out from Greenock, in the ship "George Canning" to Quebec, in 1821. The Ship had a six weeks passage, and brought out a number of emigrants, many of whom became industrious and worthy settlers in the townships of Ramsay and Dalhousie, and whose sons are now many of them scattered through Western Canada. It is to be hoped some one will preserve a history of their early trials, and final success in planting themselves on Canadian soil, before they all pass away, and while memory is yet strong and vigorous. The city gentry wax eloquent over their fine buildings, with their plate glass windows; they take great delight in their great bazaars of fashion and art, and pride themselves upon the wealth, the enterprize and magnificence around them. Very good. But what would their cities be without their country cousins? without the hardworking and painstaking cultivators of the soil? The man of the home-spun coat may turn up his eyes at the wonders of the City, and exhibit his small acquaintance with it. busy and sometimes vicious doings, and yet be one of nature's noblemen; one of the class of "solid men" whom the city would miss sadly, with their fertile acres, their harvests, flocks and herds.

We think, therefore, we are not wrong in claiming that our friend Mr. McIlquham deserves great praise,—not for an elegant mansion, or a costly farm steading heard of from afar,—but for a plain, simple, convenient, unobtrusive structure on his premises, within the reach of all well-doing farmers, costing not

more than other farm buildings, such as are commonly in use.

Making use of a small hill-side, Mr. McIlquham erected his barn 56 feet by 38—18 feet from the barn floor to the top of the plate—roof of a good pitch. The barn is placed on a stone foundation, and below the barn floor is the granary and root house; the former 23 feet by 30; the latter 23 feet by 16. Around the two ends and south side of this barn, are arranged the pig pens, calf pens, colt pens, cow-house, sheep-house, hen-house, and manure cellar, having at least 10 feet of a ceiling, with ample ventilation and light through windows ranging all around, each window  $4\frac{1}{2}$  feet long and opening. The cow-house and manure cellar is 106 feet by 28, sheep-house 38 feet by 28. Next the barn is a feeding platform all around, 6 feet wide, with a trough for roots, cut food, salt, or water from the well and reservoir. Once the feeder enters the building, he can attend to all his stock under cover and shelter. The cattle step on a platform 6 feet wide, and readily of their own accord, place their heads through the openings left for the purpose to eat, when they are at once fastened by a wooden pin, between an upright rounded post and a moveable one, thus keeping each animal in its place till done. The manure, &c., is all dropped into the space behind the cattle, 15 feet wide and roomy, and when bedded, affords comfortable shelter from the winter at all times, the doors being closed or open, according to the weather. The roots are in the cellar close by, and cut on a platform beneath the barn; while chaff, refuse grain, &c., are also along side in the granary department. Hay, straw, &c., are all supplied from overhead, through the trap in the barn floor. No seeds need reach the manure until passed through the animal. By means of the side-hill, all hay, grain, &c., are at once drawn into the barn, on the range over the apartments referred to. At the time of threshing, the grain is at once delivered into the granary through a hopper in the floor, and the straw forwarded into the space over the cow house, convenient for use.

It will thus be seen, so far as an imperfect written description will serve, without being illustrated by a drawing, that a great deal of usual labour is saved, no fodder is wasted, comfort both to man and beast secured, by a simple, yet ingenious and convenient arrangement of the premises. The manure does not freeze, and is ready for removal at any time, and is not subject to waste from exposure or being over heated, and can be turned by those useful animals the pigs, by scattering a few peas occasionally to induce a little activity. The hen house is made by simply erecting the nests against the barn wall, on the end where the sheep are kept, and fitting up a feeding box in which are put the refuse grain, seeds, &c. The windows are placed between

each of the strong beams which support the ceiling and floor over the manure cellar, and the manure removed in the usual way by carts drawn in through the doors at either end.

The building altogether presents, outside and in, a much neater and more attractive feature to the farm, than the usual ill-planned barns and buildings. Whatever criticism it may be subjected to, either from the imperfect description given of it, or from other supposed objections to the arrangement, of one thing we are assured, it is altogether very far ahead of those usually seen in our county; and we feel that Mr. McIlquham has designed and completed an arrangement of farm conveniences, and premises, that entitle him to much consideration by his brother farmers, who can only command moderate means for the erection of farm buildings. If there is anything better anywhere we shall be glad to hear of it, keeping in view also the moderate cost.

W. O. BUELL,

Perth, 19th Sept., 1863. Prest. Agl. Socy.

### GYMPSUM AS A FERTILIZER.

Messrs. EDITORS AGRICULTURIST.—As you have in your last number invited a statement of the experience of farmers, in reply to your Goderich correspondent, who can speak practically as to the effect of plaster of Paris upon *succeeding* crops where it has been sown on clover, or on any other crop, I have taken up my pen with a view of, "if not setting the question at rest," at least of throwing, from my own experience, some light upon the subject on which your correspondent is desirous of possessing information.

The first year that I became a grower of Indian corn, happened to be on a farm greatly out of condition, and being my first year upon it, I was, as you may imagine, short of manure to enable me properly to carry out my farming operations.

And as a neighbour had told me of the extraordinary efficacy of the plaster of Paris, on most crops, to which I was then a stranger, I reserved all the manure I could muster for my root crop, and dressed my Indian corn heavily with plaster in the drills at the time of sowing, and afterwards when it was about a foot high, just previously to soiling it up the first time.

I kept it clean and well hoed, and it grew very luxuriantly, though it had not manure, and the soil greatly out of heart. Being that year short of hay, I determined upon leaving two acres out of the five for fodder, and consequently did not thin the roots out at all, but after the second horse-hoeing, and before I soiled up the corn a second time, I again applied a very liberal dressing of plaster that I might get all the fodder I could. This more than answered my expectations, as it was computed that I got between five and six tons of good fodder, well cured, to the acre.

Now then for *the result* of this liberal and double dressing of plaster upon the subsequent crops!

The following year, the same five acres, with five more in the same field was sown with oats, and notwithstanding that the five acres had a slight dressing of manure, and that where the corn had grown the previous year had none, the oats on the five acre piece that had received the plaster the year before, *were more than a foot higher than the other part of the crops the straw much stronger, and the outs much finer and heavier*, and at that time I well remember that I estimated the yield at fully twelve bushels more the acre!

Now for the following year's result on the same piece of land sown with peas. Again the effect of the plaster was as plainly visible upon this crop as on the preceding one. On the five acres where the plaster had been used, I had thought the peas would never have done growing and blossoming. *The straw proved much longer and stouter, and the pods were more numerous and better filled.* In fact, on that part of the field the crop was far the best in every particular! Here, I think your correspondent, and your readers generally, will allow there is proof enough of the effect of plaster on crops succeeding the former one plastered.

But as you have justly observed, *it is not all soils* that need plaster, for wherever the soil naturally possesses the fertilizing properties of plaster or any substance closely approximating to it, of course the plaster can be of little or no benefit. The application of it would be somewhat tantamount to giving a man more whisky, when tipsy, to make him sober! By the like rule you don't give land more manure or lime when there is a super-abundance of it already in the soil, if you do, it is very evident you do harm instead of good. But I have found in my travels, and in conversation with others, that much prejudice exists, with some people, about the use of plaster as a fertilizer, where there has been but *one year's trial* of it by way of experiment, and I fearlessly assert that no man ought to be satisfied with *only one year's trial* of any experiment with the soil, especially regarding the efficacy of top-dressing with different kinds of manure or fertilizers, or of the growing of any kind of crops, as *the season alone*, after our very best efforts that skill and industry can suggest, may mar or make the crop, and if disappointment follows, he is too readily induced to believe that the failure was the result of the system adopted, rather than the effects of the season!

How often in my many years experience, have I known this to be the case, and I doubt not, but many other practical and observant men have found it so likewise. I much regret, knowing as I do, the efficacy of plaster on certain descriptions of soil, that it should be used as sparingly as it often is, more especially so if the soil be sandy or gravelly loam, when

the occupiers of such soil in many cases, if out of condition, could nearly double his produce, and almost in all cases add, at least, one third, particularly in the case of grass for hay; and on young pasture land, not only on the staple of soil alluded to, but upon much stronger land, I have seen it used with a most marked success. One year I witnessed the most astonishing effect of it on a farm, at that time the property of the late Dr. Hamilton, at Queenston, then occupied by a Mr. Jones, upon wheat, barley, oats, clover and Timothy, and that gentleman told me he used it upon all his crops *every year*, and that before he had occupied the farm four years, he nearly doubled his cropping in bulk and weight throughout the farm, and that the quality of wheat was also materially improved, and this he attributed *chiefly* to the liberal use of plaster. Doubtless other operations were well carried on also in the cultivation of the soil.

I very much regret to say, that I am thoroughly convinced in my own mind, from what I have witnessed upon other farms, and from my own personal experience, that there are thousands upon thousands of dollars, lost annually to the occupier of the soil, and consequently to the country generally, through the want of a liberal use of plaster and lime in farming operations. And I well know, that in many instances, where both can be had at a trifling cost, almost at the farmer's door, he is either too supine, too stupid, or too prejudiced to use either one or the other, when in the old country we send fifteen, twenty and even thirty miles for both lime and manure, at a heavy cost, because we could neither pay rent, taxes, or labor, nor yet live without so doing!

I feel fully convinced that the produce of this country, in hay or grain alone, could, by a liberal use of lime and plaster, as auxiliaries with manure, be increased at least one third!

Does not such a matter as this demand the serious consideration, and earnest reflection of every farmer who rightly values his own personal interest, and the material welfare and progress of his adopted country.

I have Messrs. Editors, spun this letter out to a length I certainly never intended when I took up my pen to reply to the query of your Goderich correspondent, but as prolixity is unfortunately my cardinal failing, I must trust to the patience of yourselves and readers to excuse it.

Ever yours truly,

LEICESTERENSIS.

Guelph, Aug. 31st, 1863.

## EXPERIMENT IN SHEEP FARMING.

Editor of the *Agriculturist*.

SIR,—I feel a desire, through the medium of your journal, to lay before its readers a statement of the profits arising from ten ewes in one year. My object for so doing is to advocate more cattle and sheep and less tillage.

In 1861 I selected ten ewes, they were good strong common ewes, with plenty of bone and wool. I put them in good pasture about the 20th of September, and in the first week in October I obtained a Leicester ram, one of the right stamp, fulfilling the old adage, "fat back and woolly belly." The cross was a good one, I had sixteen lambs, one of which was deformed. The ewes had nothing but pea straw after they came into the yard, until the end of February, when I fed them about four quarts of oats and peas mixed daily, with a little clover hay, until they could get a little grass around fences, where spring crop, &c. had been put in. The allowance of grain I continued until I weaned the lambs, the last of July; the ewes I then turned off on summer fallow until they could be wanted for the same purpose again. I now gave the lambs the daily feed of grain with good pasture, and in November and December I added turnip tops and some small turnips that were not worth topping. I then took them to their winter quarters, and their daily allowance was about 150 lbs. of cut Swedish turnips, 3 pecks of oats and peas, and about 12 pounds of clover hay. I have in the account allowed 10 cents a bushel for turnips, 40 cents a bushel for the oats and peas, and 10 dollars per ton for clover, all of which I have carried out fully with interest of capital laid out, rent of laud and other expenses, and have said nothing about the manure they made me, which I think paid me for my trouble. Mutton also was at a lower ebb than usual at that time of the year.

I weighed them on the first January, united weights 1,479 lbs.; first February, 1,789 lbs.; first March, 2,125 lbs., when I sheared and slaughtered them; the result will be seen in the account.

I have made no charge for the ram, I kept him two years and sold him for two dollars more than he cost.

DR.	\$ cts	CR.	\$ cts.
To 10 ewes at \$4 each.	40 00	By 1,245 lbs. mutton,	
From February to April,		at 4½ cents . . . . .	81 92
9 bush. peas and oats		By 105 lbs. fat, at 10 cts	10 50
at 40 cents . . . . .	3 60	" 15 polts. . . . .	1 87½
And half ton clover. . . . .	5 00	" Deformed Lamb. . . . .	1 25
From April to July, 17		" Wool from lambs,	
weeks, 17 bushels, at		119 lbs., at 25 cents.	29 75
40 cents . . . . .	6 80	By Wool from ewes,	
3 acres clover for pas-		61½ . . . . .	15 37½
ture, at \$4 . . . . .	12 00	By 10 ewes . . . . .	40 00
Grain from July to Dec			
From Jan. 1 to March,	8 80		
9 weeks, turnips at 41			
bushels per week, 159			
bushels, at 10 cents. . . . .	18 90		
Do. for grain, 45 bushels	18 00		
Do. for clover, 700 lbs . . . . .	3 00		
Expenses of shearing,			
smearing, &c. . . . .	5 00		
Interest on capital . . . . .	2 40		
	123 50		
Nett profit . . . . .	57 17		
	\$180 67		\$180 67

P.S.—I shall if agreeable, in the December number give you the profits arising from eight cows by making cheese. As I have said before I advocate stock instead of so much tillage,

which tends only to depreciate the value of the land. Yours, &c., A SUBSCRIBER.

[We thank our correspondent for the above practical and useful communication, and shall be glad to receive the further one he promises. —Eds.]

### SEWAGE.

We insert below an analysis of a portion of the evidence recently given before a Parliamentary Committee in England on a subject that has for several years occupied public attention, and which is closely allied to the advancement of Agriculture, as it is the sanatory condition of the people. It will be seen that several of the most eminent scientific, as well as practical men proffered their evidence, and whatever difficulties may be observed among them on minor points, they all seemed to admit that in our present state of knowledge solid manure cannot be profitably manufactured from town sewage.

SIXTH SECTION.—*Would the application of Town Sewage to Land or to Crops be likely to cause a nuisance, or be attended with dangerous consequences?*

Lord ESSEX said that there was a momentary unpleasantness attending the application of sewage, when squirted over the land. "If you go to leeward of it, you can experience an offensive smell; but that may be obviated in a great measure by holding the distributor near the ground." Five minutes after the absorption of the liquid, not the slightest smell is observable. The men employed in distributing the sewage, although often engaged 10 hours a day, have never complained of any ill effects arising therefrom. His lordship had no idea that a large quantity of it thrown upon land would injure the sanitary state of the river into which it would ultimately flow.

Dr. R. A. SMITH, F.R.S., who has studied the question of the utilization of town sewage for several years, said that evaporation from sewage, conveyed in open gutters, would be dangerous to health. To get rid of this nuisance appears to him the great difficulty. "It seems to me the most important question to consider, and for that reason I have put every other question aside. I have given my reasons for believing that there is a constant evaporation from the surface not only of water, but of impure matter, even should no water arise. I have also given an account of what those gases are which do arise, and I have also shown that they rise instantly, and with great rapidity, and that, if the sewage matter be thrown upon the ground, the gases must continue to rise. The soil absorbs impure matter with great rapidity; but when land is sewaged, a great amount is left upon the grass blades, and on this organic matter the

tion is very brisk. Sewage water should be used immediately; it will not preserve long." He thus spoke of recent experiments: "In order to trace the putrefaction of organic matter, I took blood as being a liquid of which we know pretty well the chemical composition, and containing albumen, which may be said to be a type of those putrescible organic substances which can be found in the soil or in manure. I have found that, whenever the temperature rose to about 54 deg., the oxidation was intensely rapid; and there was more than oxidation—their was an evolution of carbonic acid gas, from the destruction of the substances in solution in the blood itself. These gases came out with immense rapidity. The most abundant was carbonic acid, which rose from 82 per cent. to 95; sulphuretted hydrogen was 1.93 per cent.; the remaining 3 per cent. consisted of carbonic oxide, carburetted hydrogen, hydrogen, and nitrogen. These are the gases given off from all the sewage water, and come into our houses from the sewers, and which are given out from the land also when land is in a state of too great moisture and heat. I conceive it to be an important thing to prevent the destruction of this organic matter, for two reasons—first, for the sake of health; and next, for the sake of preventing its loss." With respect to the pollution of drinking water, Dr. Smith affirmed that water, which contained ammonia in the proportion of only 2 grains to 100 gallons, had produced epidemic in the people who drank it; but that sewage water contained from 50 to 700 grains in every 100 gallons. Water which has passed through the soil to deep drains he considered not likely to contain more than a grain a gallon of mere organic matter analogous to peat. He considered that sewage might be immediately disinfected when applied to fallow land, but not in the case of grass land. He believed the presence of an unpleasant smell a proof of the presence of danger, and that absence of it is not a proof of absence of danger.

Mr. J. B. LAWES stated that, although the smell in hot weather is strong, it is not perceptible more than a quarter of a mile off. At Rugby no deodorizer is used; and if sewage is employed with a moderate radius of London, it would be well to use some cheap, harmless substance, such as lime. He maintained the opinion expressed in the report of the Commission, of which he was a member, namely, "that the absorption of the offensive gases of sewage by the soil and by vegetation is so rapid, and there is no perceptible smell five minutes after the application; and it is therefore plain that, if closed drains or pipes were substituted for open ditches, the inhabitants of Edinburgh would cease to have cause to complain of this employment of the sewage."

Dr. A. W. HOFFMANN appeared to think slightly of the nuisance produced by sewage; and were it applied at proper times, upon proper soils, he considered that no harm would

necessarily result. He observed that in the course of 6 to 10 hours the composition of sewage is changed, and that in the course of 6 to 10 days decomposition is accomplished; that the process is most perceptible in a tank, and of course less so when the sewage is allowed to pass over the surface of a field, on account of the great area presented.

Professor J. T. WAY gave utterance to an opinion most unfavourable to the practice of discharging sewers into rivers. With regard to the absorptive power of soil; he said he found there resided in soils an ability "to separate from liquids containing manure, ammonia, potash, phosphoric acid, and magnesia—all the important elements of manure; to separate from water, not merely from infiltration, because these things would pass through a filter, but by the peculiar chemical attraction possessed by the ingredients of a fertile soil for these liquids; so that if we were passing a liquid, containing manurial matters through a given quantity of soil, the water would pass through, and these matters, would be retained—fixed in the soil." This he regarded as a designed provision for the preservation of manuring principles from being washed out of the soil by rains. Sewage is deodorized the moment it sinks into the soil. On grass land a certain portion remains upon the plants and this might cause some smell. The water of sewage is perfectly clear as it runs off the surface of the field, having gravitated from a higher to a lower level, or as it precolates through to the drains. This is the case at Croydon, where the water, after flowing over 300 acres of land, passes off in a beautiful clear state to the river, and at Edinburgh. He considered a large reservoir of sewage liable to very great objections.

E. FRANKLAND, Esq., F.R.S., a gentleman employed by the Board of Works to inquire into the deodorization of sewage, said that, "in the application of very concentrated and nauseous sewage to land, I have found that the odour disappears almost immediately after the application; while the liquid flowed from the London sewers, even in very hot weather, is really not very disagreeable." In ordinary seasons he considered deodorization quite needless, and when properly used, apprehended no disagreeable or hurtful effects from the use of sewage.

Mr. Alderman MECH, who described his land as being perfectly drained, said that ordinarily no ill effects occur from passing the drainage water to the brook; but when "a strong dose of sewage had been administered the water has come through the land highly coloured, and smelling." He considered very large applications of sewage likely to become a public nuisance. Eight hundred tons per acre could not be used without endangering the health of the population. Two thousand tons of London sewage might be applied, for by the new London lines of sewage there will be no stagnation,



and the liquid will reach its destination almost before change has begun to set in.

Dr. AUGUSTUS VOELCKER stated that the power of the soil to arrest the manurial properties of sewage has its limits. "I find," said he, "that while the solution is made weak, even a clay soil will not remove from it the same quantity of ammonia, or of other fertilizing matter, such as potash, as will be removed from a more concentrated solution." Very strong and very weak solutions both carry away with them a large part of their ingredients, and the water from a solution of medium strength passes away in a state of the greatest purity. He said that sewage was deodorized the instant it came into contact with the soil, but explained deodorization to mean the parting only with some of the fertilizing properties inconvenient to the senses, not necessarily with all. The ordinary sewage he considers to be diluted, and it scarcely parted with any of its fertilizing properties, and produced little more effect than the same amount of pure water running over the soil.

Mr. W. S. TILL, Borough Surveyor of Birmingham, stated that the sewage water, after having been used for irrigation, passes into the river. It is of a light brown colour, not offensive to the nose, and contains distinct traces of ammonia.

Mr. J. T. BLACKBURN, a farmer, said that, compared with the dressings of solid manure, the advantage in point of nuisance, was quite in favour of sewage. There was no need of deodorization, if the land was well drained. The system of deodorization pursued at Carlisle he thought quite unnecessary, because the sewage arrived at the outfalls before decomposition had commenced, and was used in a perfectly fresh state, without smell.

Mr. J. FENTON, Engineer to the Croydon Board of Health, had testified to the clearness and purity of the sewage water when it had passed over the 240 acres. It had the taste of ordinary rain water. At the time when the sewage was passed over 15 acres only, the Board was liable to injunctions; but now the water is so completely purified, that the river water sustains no damage, and there could be no ground, as formerly, for injunctions. The neighbourhood, in fact, now complains of no nuisance. He gave his opinion in favour of a close sewer, in preference to an open drain, to carry sewage upon the land, as less liable to produce a nuisance. When on the land, he preferred open drains to pipes, for with the latter a great "head," and a powerful engine to drive the stuff through, or a fall from a great height, would be absolutely requisite, and very costly to maintain. In the summer months there is a smell at the filter works, but by the use of carbolic of lime it is easily overcome. Since 1859 there has been no complaint and yet there are houses within a quarter of a mile from the works.

Mr. GEO. KING stated that the sewage from

the lunatic asylum at Hayard's Heath, where 600 patients are confined, after passing over 17 acres of land, falls quite purified into a brook. Formerly it spoiled the water of the brook into which it fell, and it was necessary to carry it by a pipe drain to some distance beyond the village; but since it has passed over the land, it has been rendered quite harmless.

Sir JOSEPH PAXTON, M.P., did not think deodorization by any means always necessary, but he thought it generally advisable to disarm prejudice. The highly concentrated sewage used at Sydenham gives rise to at little or no smell. This contains only one tenth the water which is in the London sewage; and yet concentrated as it was. Sir Joseph found it practically pure after having passed through six feet of soil. A little water was always applied afterwards to wash it into the soil. The large tanks excavated at the Crystal Palace for the reception of sewage, being thoroughly ventilated, are not known to exist by the visitors, although the opponents of this plan prophesied the greatest trouble and annoyance from their being placed under the main entrance of the building.

Mr. G. H. HENDERSON said that the application of sewage at Colney Hatch produced no disagreeable effects, and was not complained of by the medical authorities. The sewage which escapes is deodorized; that which is used for irrigation is deodorized in its passage through the soil, and rendered perfectly pure.

S. C. MILLER, Esq., said, in reference to the Craigtintny meadows, that the ammonia, the offensive ingredient of sewage, was immediately absorbed by the roots of the grass, and ceased to smell. Any person may walk over the meadow up to their ankles in water, and would not perceive that they were walking in impure water. He said that residing as he did the greater part of the year on the west side of these meadows, and within a hundred yards of them, he experienced no nuisance, a circumstance due to the extreme dilution of the sewage. The Piercehill Barracks, which are *vis-a-vis* with his house, have been reported the healthiest in Scotland. "We have about six families partly engaged in irrigation, and some who have no other motives in living there than their own fancy, being perfectly unconnected with irrigation, living in an old standing in the centre of the meadows; and I think that we have as fine children and healthy people as are to be found in the whole kingdom."

Mr. JAMES HOPE said, that those who used the path between Edinburgh and Leith, which runs across the Craigtintny meadow, complain a little sometimes of smell. The people in the neighbourhood have made no complaint.

Mr. JOHN CHALMERS MORTON visited the Craigtintny meadows on a fine, windy, cool day, and found a "decidedly disagreeable smell." He had heard of no insalubrious effect arising from it to the people in the neighbourhood. On the fields of Carlisle no smell was found.

from the deodorized sewage, excepting that which arose from decaying vegetable matter. Town-sewage he considered could not be applied without proving a nuisance, and should only be used where population is scanty. Should the application of sewage be reduced to the point when it was no longer a nuisance, the produce would be much diminished also. As to the relative absorption of soils, he thought those fertilizing ingredients which are of a volatile character were absorbed in proportion to the quantity of clay which they contain; "but then, in proportion to the quantity of clay which they contain in their composition, their mechanical power of dealing with water diminishes."

Mr. J. BENSON said that the houses were within a quarter of a mile from the Duke of Bedford's meadows at Tavistock, and that the smell on a foggy day would be no worse than what would arise from land newly manured with solid dung. It is offensive, but not, he thought, deleterious. People have actually been building nearer, the nuisance, which is not complained of. No fevers, &c., appear to have attacked the quarter of the town where these meadows lie.

Mr. GEORGE McCANN said no smell arose from his sewage irrigated meadows, and no injurious effect to the tenants of numerous cottages within 30 to 40 yards of them. The water which runs away is much discoloured, and that which drains from the Malvern Link into a small stream which runs past Lord Beauchamp's estate is considered very offensive.

P. W. S. MILES, Esq., said that when the sewage is used on the lowest field, a quarter of a mile from his house, even when the wind is in the direction of the house, no smell is perceptible. Nearer it is not pleasant, unless the wind blows from another quarter.

Mr. W. WESTWOOD stated that before the sewage of Croydon was run over a large area of land, at a time when a great part of it was run into the brook great complaints were made. A deposit of filth was left along the brook for a mile or two through the country. The people in the neighbourhood made no complaint.

Mr. F. WILEY employs sewage 400 yards from his residence without bad effects: still, on sanitary grounds, he thought the application of sewage should be as far removed as possible from human dwellings. When the supply of water per person is small, the sewage is apt to stagnate in the sewers, and it will then give out a very offensive and dangerous odour; but when plenty of water is used, this is not the case, for the sewage passes quickly into the field, and is utilized before decomposition takes place. The drainage and sewage at Coventry is now, he said, "quite satisfactory in a sanitary point of view." He also stated that Mr. Auston had been down to deodorize it, but that they were perfectly satisfied that the expense of using per-nitrate of iron would be too great, and lime

was, as proved at Leicester, destructive of the manure.

The Seventh Section of this analysis embraces the evidence given in answer to the following question:

*Can solid manure be profitably manufactured from town sewage?*

J. B. LAWES, Esq., stated it as his decided opinion that in a commercial point of view the manufacture of sewage or sewage residuum into solid manure would be unsuccessful. "The most valuable part of the sewage remains in the liquid, and cannot be extracted."

Professor J. T. WAX was also of opinion that a dry manure cannot be profitably obtained from sewage—not by means either of precipitation or evaporation. Some such process might be pursued with advantage as a means of getting rid of the nuisance from town, provided that the town pays the expense. For sanitary purposes considerable good might be gained by precipitation; but pecuniarily, nothing—for agricultural purposes the result would not pay for the expense.

Dr. EDWARD FRANKLAND agreed with Mr. Wax's opinion.

Mr. ALDERMAN MECH said that no hope existed in the minds of scientific men at present of abstracting and reducing to a solid matter the valuable ingredients of sewage.

Dr. AUGUSTUS VOELCKER spoke of all the schemes put forth to reduce sewage to solid manure as failures. He entertained no hope of ever producing a solid manure that will pay the expense of conversion.

TOP-DRESSING FOR WHEAT.—Dr. Voelcker, chemist to the Royal Agricultural College at Cirencester, England, gives the following composition for top-dressing for wheat on light soil:—Nitrate of soda, 1½ cwt.; common salt, 3 cwt.; Peruvian guano, 2 cwt.; soot, 40 bushels—to be mixed with dry substances, sand, and cool-ashes, so as to make about 60 bushels of a manure which will be sufficient for three acres.

#### FEEDING QUALITIES OF OIL CAKES.

The following is an abstract of a lecture, by Dr. Macadam, being the fourth lecture of his course especially devoted to Agricultural Chemistry, now being delivered by him in the New Veterinary College, London:

The ordinary food of stock, consisting of grass, hay and turnips, is very bulky in its nature and contains a small per centage of flesh-forming ingredients, accompanied by a large proportion of heat-producing constituents and refuse matter. The digestive system of the sheep and the ox are especially designed for making the best use of such food, but the

fattening process proceeds slowly unless an admixture of rich food is given. The oil-cakes which are now so extensively consumed by stock, supply in small bulk, and with a comparatively little trouble to the animal, a large amount of fat and flesh forming ingredients. The feeding qualities of oil-cakes are mainly dependent on the presence of albuminous compounds to the extent of 20 to 40 per cent. accompanied by an average of 12 per cent. of oil, but besides these, there is a large amount of starch and woody fibre, along with a little sugar and gum, and saline matter containing phosphates (the principal element in bones). In short, we have present in an oil-cake the important feeding properties of the ordinary food of animals in a concentrated form, and readily capable, when partaken of by the animal, of becoming flesh and fat.

One of the great advantages of a feeding stuff with the composition of an oil-cake, is the presence of so much ready formed oil, as this is easily assimilated by the animal system, and is readily stored up as fat. At the same time, the digestive powers act on the starch, gum, sugar, and part of the woody fibre, resolving these into compounds which, as they circulate through the blood, become elaborated into fat capable of being also deposited in the tissues. The albuminous constituents also becoming transformed before and after entering the blood, and ultimately are woven into flesh in the living structure, whilst the phosphates are taken up into the blood and supply the wants of the bones.

*Linseed Cake* is regarded as the first-class oil-cake, and it is obtained from linseed by bruising, steaming, and subjecting it to a pressure in hair cloth bags, when about 25 per cent. of oil is extracted, and linseed cake is left. The better kinds contain 24 to 30 per cent. of albuminous compounds, and about 12 per cent. of oil. Linseed oil-cake is liable to be mixed with inferior oil-seeds, bran and other cheap materials, which detract from its nourishing properties, and occasionally impart to it noxious properties. A simple way of examining linseed-cake is to grate down about half an ounce, and put it in about half a tumbler of water, and stir for a short time. Good cake gives a light-coloured jelly, with an agreeable taste and smell. If other seeds be present as impurities, they communicate a disagreeable taste and unpleasant odor, like refuse canary seed.

*Cottonseed-Cake* is made from the seed of the cotton plant in two ways. (1) By crushing the whole seed—husk and kernel—yielding a cake with little more than 20 per cent. of albuminous compounds and 6 per cent. of oil, and which is very objectionable as an article of food, owing to the presence of the fragments of husk and much cotton fibre. (2) The cake is prepared by first shelling the seeds so as to remove the husk, and the ker-

nel so obtained is compressed so as to extract some of the oil, and a very superior feeding cake is left, which contains from 30 to 40 per cent. of albuminous compounds, and 15 to 18 per cent. of oil. In the shelled or decorated cake no fragment of the husk should be observed. The newly prepared or fresh cake is yellow in color, somewhat resembling mustard, but becomes brown on the surface when exposed to the air—especially when damp—and the brown tint passes gradually to the centre as the cake gets aged.

*Rape-Cake* is the cheapest kind of oil-cake, but many varieties are equal to linseed in composition, and in some cases have been found equally useful in the feeding of stock. It is prepared by bruising and compressing rape seed, which yields rape-oil, largely used as a lightening oil, and leaves in the bags the rape-cake. This description of cake has naturally a pungent taste, which cattle and sheep rather dislike at the first, and very often it is found necessary to mix the bruised cake with locust beans, or merely to sprinkle the cake with treacle, which to a great extent mask or cloak the pungency of the cake, and besides add to the seeding properties. Rape-cake is often mixed with other seeds, which necessarily impart blistering properties to the cake, and thus give rise to rather curious effects in the alimentary canal of the animal partaking of such a mixed cake. The presence of the mustard seed may be easily determined by reducing the cake to powder, and mixing it with a thin paste with cold water in a pickle bottle, which can be corked up. If the quantity of mustard is great, the characteristic smell of made-up mustard will be decidedly apparent in a quarter of an hour, but failing its appearance, then the experiment may be allowed to go on for twenty-four hours, when should no pungent odor be recognized, and the taste is not extra strong and pungent, then mustard is not present in quantity to be at least productive of harm; but if the mustard odor is obtained; and especially if a very strong pungent taste accompany it, mustard is present in quantity to be injurious to health of animals partaking of the cake.

The judicious employment of the various kinds of cake in the feeding of animals is productive of the best results, but cakes of all descriptions are too rich to be given alone to feeding stock, and the daily quantity should be limited. In the feeding of sheep with cake, it would be safer if some plan could be adopted whereby each one would only take its allotted share. During recent seasons, several fatal cases happened, not only where a too liberal dose of the rape-cake had been thoughtlessly given, but even where the proper quantity was weighed out for a given number of sheep but as one sheep, could appropriate its own and its neighbor's shares, evil consequences resulted.

In concluding the subject of oil-cakes, special reference must be made to the very rich nature of the droppings or manure obtained from stock fed on cake. The improvement in the nature of manure through the instrumentality of the oil-cake, is mainly due to a part of the albuminous or nitrogenous compounds passing through the animal without having been taken up by the system. The proportion of the nitrogenous ingredients of the oil-cake which thus pass direct through the alimentary canal, and appear in the manure, is, variously estimated at seven-eighths down to nine-twentieths of the whole, and therefore we may safely consider that the manure represents one-half of the total value of the oil-cake.

### TOBACCO CULTURE.

We compile the following from the best material at command, in regard to the cultivation of "ye weed."

The plants should be topped when the majority of them are ready to bloom by breaking off the main stalks with five or six leaves. In a about a week the suckers should be taken off, and in ten days repeat again. It will usually be ready to harvest during the first part of September. It should be suckered the last thing before harvesting. It should be cut close to the ground with a small saw and laid down carefully to wilt, but the hot sun should not be allowed to shine long upon it as it will burn it and render it worthless. As soon as it is thoroughly wilted, say by noon, it should be got in and hung in the building prepared for its reception. If it is left in a pile and heats, it is spoiled. Handle it by the butt and hang it butt end up, on poles or rails, by tying a stout twine near the end of the pole and passing it round a butt tightly, then put it around another in the same way but on the opposite side of the pole, and so on until the pole is full, leaving a space of about six inches between each plant. The poles or rails used should be from four to five inches through.

We presume, any outbuilding, where there is a free circulation of air and open at the sides, but not enough to let in the sun, would answer every purpose. It is sufficiently cured when the stem in the leaf has become hard and dry clear up to the main stalk. After being dried thoroughly on the poles, it may remain until any convenient opportunity for stripping, without injury. In stripping, the leaves should be broken off at the junction with the stem, and divided into two sorts, the bests and the small and broken. Each kind should be put in hands of twenty to twenty-five leaves by putting the butts of the leaves together and winding a leaf around, passing the end under a part of the hand and again pressing them together.

It is now ready for sweating. The hands should be placed in a frame, tip on tip, with the round end outward. It should not be piled more than fifteen inches deep, and covered with a board or cloth to preserve the moisture. It should be examined occasionally and if liable to heat and mould, should be repacked. If the sweating goes on well it is perfected in about five days. It is then ready to use, put in such form as suits the grower, or packed in cases for the market. If for market it is packed and pressed into cases or boxes, the box nailed up and kept in a dry place until marketed.—*Maine Farmer.*

## Agricultural Intelligence.

### THE LOWER CANADA PROVINCIAL EXHIBITION.

The Show of the Lower Canada Agricultural Association was held on a very convenient spot at the base of the mountain, in the city of Montreal, September 15th-18th, and must be regarded on the whole as a decided success. The weather was fine, but a little too hot and dusty to be pleasant, except Friday, the closing day, when heavy rain commenced, sadly inconveniencing exhibitors and visitors, and greatly interfering with the winding up of the show.

The live stock department was quite extensive, and very conveniently arranged. It comprised several first-rate animals in each of the classes. Blood horses were particularly good, but we felt somewhat disappointed at the indifferent display of French Canadians, a beautiful and useful breed when maintained in their purity, but which seem of late to have been much intermixed. East of Montreal, as at Three Rivers, Quebec, &c., the Canadian horse is more common and of better quality. Although there were a number of animals of superior merit belonging to Lower Canada, in the various classes, the show was in this respect much indebted to the several breeders residing in the western section of the Province, as the following extract from the Prize List attests:—

J. Coote, London, C.W.: 1st and 2nd prizes, for span of draught horses over 1300 lbs. in weight. Simon Beattie, Markham: 3rd prize heavy draught stallion, 1300 lbs.

DURHAMS.—George Miller, Markham: 2nd prize bull calf under one year. Do.: 3rd prize, for cow four years old and upwards. Samuel Beatty, Markham: 2nd prize, three year old cow. George Miller, Markham: 2nd prize, two year old heifer. Do. 2nd prize heifer calf under one year.

DEVONS.—Chris. Courtice, Darlington: 1st and 2nd prize, four year old bull; do. 1st and 2nd prize, one year old bull; do. 1st and 2nd

prize, bull calf under one year; do. 1st, 2nd and 4th prizes, cow four years old and upwards; do. 1st prize, three year old cow; do. 2nd prize, two year old heifer; do. 2nd and 3rd prize, one year old heifer; do. 1st and 2nd prize, calf under one year.

**GALLOWAYS.**—John Snell: 2nd prize, one year old bull. Geo. Miller, Markham: 1st prize, three year old cow. John Snell, Edmonston, C.W.: 1st prize, bull calf under one year; do. 3rd prize, one year old bull; do. 3rd prize, cow four years old and upwards; do. 1st prize, one year old heifer. George Miller, Markham: 1st prize, heifer calf under one year; do. 2nd prize, one year old heifer.

**FAT OR WORKING CATTLE.**—George Miller: 1st prize, fat cow or heifer.

**SHEEP, LEICESTERS.**—John Snell: 1st and 2nd prize ram, two years and over, Leicester. Alfred Jeffrey: 3rd prize do. do., Vaughan. John Snell: 1st and 2nd prize shearling ram. Alfred Jeffrey, Vaughan, 1st prize ram lamb. John Snell: 1st prize 2 years, and over. Alfred Jeffrey: 3rd prize; Do.: 1st prize two shearling ewes. George Miller, 3rd prize do. Alfred Jeffrey, Vaughan: 1st prize two ewe lambs. Andrew Ray, Granby: 3rd prize do.

**COTSWOLD SHEEP.**—George Miller, Markham: 1st prize shearling ram, Cotswold. John Snell: 2nd do. do. Alfred Jeffrey: 3rd do. do. Geo. Miller: 1st prize ram, two shears and over. John Snell: 2nd and 3rd prize. George Miller, Markham: 1st prize ram lamb. Andrew Jeffrey, Vaughan, 2nd prize. George Miller, 1st prize two ewes, two shears and over. John Snell: 2nd do. Alfred Jeffrey: 3rd do. Geo. Miller: 1st prize two shearling ewes. Alfred Jeffrey: 2nd prize do. George Miller: 1st prize two ewe lambs.

**OTHER LONG-WOOLED SHEEP.**—Simon Beatty, Markham, 1st prize, ram, two shears and over; George Miller, 1st prize shearling ram; John Snell, 2nd do; Alfred Jeffrey, 3rd do; George Miller, 1st prize, two ewes, two shears and over; John Snell, 2nd prize; George Miller, 1st prize, two ewe lambs.

**SOUTH DOWNS.**—Alfred Jeffrey, 2nd prize ram, two shears and over; Alfred Jeffrey, 2nd prize ram, two shears and over.

**CHEVIOTS.**—George Miller, 1st prize, ram lamb; do, 1st prize, two ewes, two shears and over; do, 2nd do; do, 1st prize, two shearling ewes; do, 1st prize, two ewe lambs.

**OTHER MEDIUM-WOOLED SHEEP.**—Geo. Miller, Markham, 1st prize, ram, two shears and over; do, 1st prize, shearling ram; do, 2nd prize, ram lamb; do, 3rd prize, two ewes, two shears and over; do, 1st prize, two shearling ewes; do, 1st prize, two ewe lambs; Alfred Jeffrey, Vaughan, two fat ewes.

Manufactures, mechanical productions, grain, &c., were exhibited in the Crystal Palace, a building of large dimensions, having two ranges of galleries, situated within a convenient distance from the cattle show ground. This

department was indeed highly creditable to the skill and industry of Montreal in particular, and was numerously attended. There were not many things from Upper Canada, but the subjoined list will show that articles from this section were considered worthy of prizes:—

J. G. Beard & Sons, Toronto, 4 prizes for stoves. 1. Cooking stove with furniture. 2. Do. with apparatus for heating water. 3. Parlor stove for coal, another for wood. 4. Collection of stoves. A prize was awarded them for their hall stove, but for some reason is contested. Others are honorably mentioned. A prize is also given for their portable forge. W. H. Sheppard, Toronto, chimney piece, 2nd prize.

Saunders, London, C. W., first prize for medicinal fluid extracts.

William Millikin, first prize, 3 sides harness leather; do. do., 3 sides upper leather; do. do., 3 sides hose leather; do. do., 3 sides skirting leather; do. do., 3 sides carriage cover leather; do. do., 2 sides upper leather; do. do., 12 sheep skins coloured; do. do., 6 calfskins dressed.

Billings & Co., Galt, C. W., honourable mention for assortment of leather.

D. Chisachi, Kingston, C. W., first prize, assortment of 6 hats.

W. H. Sheppard, first prize, 1 sun-dial in marble.

Rollo & Adam, Toronto; British American Magazine honourably mentioned.

We regret that want of space forbids a more detailed notice of this interesting exhibition, which clearly indicated that both agricultural and mechanical arts are making certain progress in the eastern section of this Province. Before concluding, however, we must just notice the Horticultural exhibition (although not directly connected with the other) held in the large Skating Rink in the immediate vicinity. It consisted of a very extensive collection of fruits and flowers, many of which were beautiful specimens of the finest quality. This exhibition attracted large numbers of visitors every day, and during the evening, and much of its success we learnt was due to the indefatigable exertions of the Secretary and Treasurer, Mr. J. E. Pell, lately of this city, whose zeal and services in matters of this kind are well known to many of our readers.

## MONROE COUNTY (N. Y.) AGRICULTURAL SOCIETY.

The Annual Exhibition of this Society was held at Rochester, September 9th and 10th. The live stock department, owing to several causes, did not equal preceding exhibitions, but the show of fruits and flowers was exceedingly good, clearly indicating the adaptation of the soil and climate of Western New York to these beautiful and useful productions.

A novel characteristic of this exhibition consisted in the liberal premiums offered by the Society for wheat, open to all the States and British Provinces. For the best 20 bushels of white winter wheat \$150, and the second best \$76, were offered. For red winter wheat of 20 bushels, \$100 and \$50, for 1st and 2nd prizes. Liberal premiums were given for 2 bushels of white and red winter and spring wheat. The entries, although only about twenty were made in all, attracted much attention, and will be productive of great benefit. The wheat on exhibition was from New York, Michigan, Ohio, Illinois, Maryland and Canada. The first prize for white winter wheat of 20 bushels was divided between Mr. I. H. Anderson, of Hamilton, Canada West, and Mr. E. S. Hayward, of Brighton, Monroe County, N. Y.; the judges considered them equal. Both were of excellent quality, the former the blue stem, weighing 65 lbs. per bushel, the latter was the Soule's variety. The same parties had divided between them the first premium for two bushels. The prize wheat became the property of the Society, and was sold by auction on the ground, averaging \$2.75 per bushel. The Canadian wheat was purchased by Mr. John Johnston, of Geneva, for seed.

After making the awards the Committee (through their Chairman, Prof. Geo. Buckland, of Toronto, C. W.,) concluded their report as follows:—"The specimen of twenty bushels exhibited by the Hon. Jacob Hinds, is deserving of special notice and commendation, that gentleman having succeeded, after several years' experiment, in bringing it from a spring wheat to a white winter variety, to its present state of perfection. The Committee cannot but regret that so few competitors appear at this first attempt of an International Wheat Show, and earnestly hope that an object of so much importance will be annually attended by increased support and success."

The President, Joseph Harris, Esq., of the *Genesee Farmer*, brought the proceedings to a close by an admirable address, in which he treated more particularly of the present condition of wheat culture in Western New York.

### UNION EXHIBITION.

The Societies of West York, the Toronto Electoral Division and the Horticultural, held what is termed a *Union Exhibition* in the Crystal Palace and adjoining grounds in this city on the 6th, 7th and 8th inst. Unfortunately the first day was as regards weather unpropitious for arranging and judging the various articles, and many things were kept back in consequence, but the next day was worse, accompanied by continuous rain, which prevented the attendance of visitors, and most seriously affected the interests of the Show. Thursday was threatening, but, upon the whole, fair, and considerable numbers visited the Exhibition, while a vast multitude was at-

tracted to the Volunteer Review, which proved highly successful.

If the weather had been favourable the Union Exhibition would have realized the expectations of its projectors, and the receipts would have no doubt both met the demands of the large premium list and left a handsome balance to be carried to the credit of the Society. The live stock department, as most others, would no doubt have been more extensive under favourable circumstances, yet it was not by any means discreditable to a local Show. Horses were good and in fair numbers, while the leading breeds of cattle, including Durhams, Devons, Ayrshire and Galloways, were represented by excellent specimens from most of the distinguished local breeders. This was also the case with sheep, especially the Leicesters and Cotswolds, from Messrs. Snell, Miller, &c. In pigs and poultry the show was deficient. The grain also fell short in quantity, and the quality generally was not superior. Some interesting specimens of new varieties of grain were shown by Captain Shaw and others, from small quantities of seed received last year from the London International Exhibition, which were very interesting; some of which will probably prove, on further trial, of practical value to our agriculture. In implements, carriages, &c., the show was not abundant, but many of the articles were good; as was likewise the case with oats and manufactures. The display of fruit and vegetables was superb, almost, if not quite, equal to most of our Provincial Exhibitions. This department was unquestionably the best of the whole, clearly indicating the progress which gardening and fruit growing are making in this section of Upper Canada. It is to be hoped that this effort at a union of different societies in one exhibition will not, mainly in consequence of unpropitious weather, deter its promoters from a further trial next year.

### THE ROYAL AGRICULTURAL SOCIETY OF IRELAND.

#### Annual Show at Kilkenny.

The exhibition of this important society took place the latter end of August, in the good old city of Kilkenny, and was attended by a large amount of success. In some departments it was not equal, as might be expected, to some previous shows in such localities as Dublin, Cork and Belfast; but all accounts represent the number and quality of cattle, horses, sheep, &c., as highly creditable and encouraging. The *Irish Farmer's Gazette* observes:—

Fifteen years have passed since the "Irish Royal" held its show within the bounds of the ancient city of Kilkenny, and there are many who, doubtless, can well remember the anxiety with which the meeting in '48 was

looked forward to, and the disagreeable circumstances under which it was held. Two years of unexampled distress had prostrated the energies of the country, while at that very time agitation had roused the evil passions of men to an alarming extent, and fears were even entertained that the meeting would not be permitted to pass over without some serious disturbance. All those untoward circumstances had, of course, a depressing effect, and we believe we may say that all who had business at the show were heartily glad when it was over.

At this time we, too, have passed through our "three bad seasons," but we have not the additional burden to bear of fierce political excitement, and we have emerged from our recent difficulties under the influence of one of the finest seasons, thank God, which any one can remember. Things are by no means in the condition they should be, we grant, but they wear an infinitely more cheering aspect than they did in '48, and there is a hopeful spirit abroad which we trust will yet eventuate in a career of unchecked prosperity for this fine country.

The show of implements was very good, numbering 54 stands; but none of the stands were so extensively filled as they used to be, and we miss for some years, as well as on the present occasion, the names of some first-class houses. This is to be regretted, for we have not that variety of small and large implements and machines to choose from to satisfy the wants of the several grades of occupants.

#### HOWARD'S STEAM PLOUGH.

On Tuesday, Howard's apparatus for cultivating land by steam power was in operation in the demesne of Dunmore, about two miles from Kilkenny. The land had been under a crop of wheat, which had just been removed, and the surface very foul with couch and other weeds, besides the stubble, from the speed under which the plough was driven, collected and choked up the ploughs, which rendered it necessary to stop and clear the implement frequently, till a man was appointed to keep it free, after which everything went on gallantly, the plough passing quickly through the land at such a smashing pace as to turn over the land in the best manner six inches deep, and at the rate of one statute acre per hour. The steam was kept up on the following day, with directions to the attendants to put the apparatus in motion, should any respectable group go out to witness its power and effects, of which many availed themselves, so that the universal opinion was that Howard's apparatus for cultivating the land with steam power was a decided success; and we are glad to learn that the whole apparatus, exclusive of the steam engine, was purchased by Wm. Malcomson, Esq., of Hortlaw, so that it remains in Ireland.

We are disposed to make room for the speech of His Excellency the Lord Lieutenant, in reply to the toast of his health at the Banquet, indicating as it does the state and prospects of Irish agriculture, in which we, as British Colonists, must always feel a deep interest. Ireland, in consequence of three successive seasons of bad harvests, has been considerably thrown back, but the present year is a bountiful one, the commencement, we trust, of a long series, producing peace and plenty.

His Excellency, on rising to respond, was received with loud applause. He said—My Lord Beesborough, my lords and gentlemen—I have reason to return you my deep and heartfelt thanks for the honour you have done me, and so kindly done me, in drinking my health. My noble friend, your president, has alluded to the frequent occasions on which it has been such a deep source of gratification to me to attend the meetings of the Royal Agricultural Society of Ireland, which have now carried me heartily over the whole surface of the country. But I can assure you that this feeling of satisfaction has never been more fervently felt by me than on the occasion of our being assembled within the ancient city of Kilkenny; for, without pausing to dwell upon its picturesque site or its historic lore—its silver Nore sweeping under the battlements of its lordly Butlers (cheers)—its ancient shrines and rising temples; not to call to remembrance the almost unparalleled list of men of eminence who have received their education in its ancient school or college—I need only mention Dean Swift, Farquhar, the dramatist; Congreve, the dramatist; Steele, the essayist; Berkeley, the philosopher; Bishop Flood, the orator; Yelverton, the Chief Justice; but I myself remember, in my early years, the renown of its spirited gentry, and its social gaiety. The Bushes, the Powers, the Beechers, the Behans, and, what is closest to my own heart, its sunny slopes and mountain summits, are allied in my mind with the nearest and tenderest memories. However, these are hardly topics for the present hour, and I pass to the more special business of the day. Upon a later occasion of these annual meetings of the Royal Agricultural Society, and especially at the last of all, which was held in Limerick, it was my painful duty to speak in rather gloomy tones of the then subsisting agricultural condition and prospects of the country (hear, hear). It is true that four successive and unfavourable seasons have preceded the present year. 1859 was a year of unusual drought, which made an inroad on our live stock that has hardly yet been repaired, and with this perished a great quantity of our manure. Then three summers of almost incessant rain followed. The crops one by one felt the unhappy influ-

ence; land dropped out of cultivation, and the last year was the worst of all. So that if we were now obliged to confine ourselves wholly to retrospect, and not to indulge at all in prospect—if we only dealt with memory, and did not consider what was due to hope—this would be the very moment of the greatest depression. But you will all remember in the sacred page how, when the Prophet stood on the ridge of Carmel, he was told six times that there was no prospect of relief in the parched earth or in the burning sky; yet, on the seventh occasion he gathered from the sight of a small cloud, like a man's hand, a prestige of the coming deliverance, which then came in the form of rain. So we, I trust, may thank God that we can read in the sunbeams which have gladdened our eyes tokens of returning plenty and recovery (hear, hear, and applause). I observed that land, under the baneful influence of the season, fell from time to time out of cultivation, and naturally the last reclaimed and the least productive lands were the first to be given up, and in the same gradation the best land was the last retained in tillage, and it is of that best land that we may now hope to enjoy the fruits under the best influence of a milder climate. And it was gratifying to me to find that it has been computed by most trustworthy persons, that if the crops of this season only equal the average yield of the last ten years, the value—supposing there should be no great disturbance in price—would exceed the value of the crops of 1862 by some ten millions of money. And if they should exceed that average of the last ten years, of course the grain would receive a proportionate increase. Amidst the general depression which affected almost every kind of agricultural produce, I find an exception in the article of flax, and I learn that this year 60,000 more acres of flax have been sown than the last ten years, or, probably, more than ever were sown in Ireland; and the activity of the linen trade, in such marked contrast with that of the cotton trade, encourages the hope that the flax crop over and above its abundance, will realize satisfactory prices (hear, hear). With respect to other crops which cannot attain that amount which the favourable nature of the present season might otherwise have secured to them, if land had not been previously thrown out of cultivation, we may hope that, whereas the sufferings of a bad year are nearly mainly confined to the year itself, the caution and resources, which are altogether best learned and only learned in seasons of difficulty and trial, will bring with them salutary permanent results (cheers). I think it may be a matter of serious reflection whether the least favoured lands ought to be restored to a more precarious crop, as I believe that lands that have hitherto been devoted to wheat would be much better applied to those grains that suit better with colder and moister climates (hear, hear.) No

lesson of the past has been more permanently taught than the necessity of continued attention to drainage, and I rejoice to find that two measures have been adopted in the last session of parliament for giving facilities to proprietors for making outlets to their drains, and for enabling them to form drainage districts to effect a more complete drainage. And I believe these two measures rest on the sound principle of facilitating proprietors in executing the works themselves, without any undue influence on the part of the government. The competition of the whole world, acting now upon us through new facilities of transit and new means of access, of which the Galway line is the last, of course continually grows more intense. The great enterprise of your neighbors, the pork merchants of Waterford, has given activity to the bacon trade, of which this city may be considered in some respects the centre, and the vigorous promise of the potato crop bids fair—for we all know the connection between pigs and potatoes (laughter)—to contribute to the further extension of the pig trade in Ireland. I believe almost the only article of food the importation of which into the United Kingdom has been diminished within the past year is butter. Now, the state of Ireland affords considerable facilities for that trade, which it has long enjoyed, and I trust that continued attention to dairy farming will carry on and advance its prosperity. I had wished almost to indulge myself in some little reflections on the processes of hay-making which I observe carried on in Ireland; but I have found my views so completely summed up in the old survey of the county of Kilkenny, written, I believe, by the father of my excellent and honoured host, Col. Tighe, that I cannot help quoting what he says, rather regretting that the subsequent amendment not has been as complete as we might have hoped. "The principal faults," he says, in "common practice are drying the hay too much, and exposing it too long to injury in every way. The great object seems to me to be to prevent heating, to accomplish which the wind and rain often extract all the nutritious parts of the hay long before it quits the field. There can be no doubt that it is highly useful for the hay to heat moderately. If it is cut while the grass is succulent, and permitted to heat, the saccharine process takes place, and an additional quantity of saccharine matter—one of the most nutritious substances—is formed by combination with the oxygen; it only requires that it should not be allowed to go too far. It often happens that the hay is allowed to remain too long in the fields. It loses then in the saccharine matter, and there is also the additional disadvantage that the ground is debarred from the benefits which it would otherwise receive from exposure to the light and air of heaven." Such topics as the better selection of seeds, the questions of the steam plough,



the treatment of the disease of cattle and sheep, I wish entirely to leave to those better competent to offer an opinion upon these subjects, as well as upon the particular merits of the very successful show we have witnessed this day. I am very glad to perceive that among other objects which the society has cordially adopted is one institution, patronized, I am very gratified to see, by the ladies of Ireland, and by some of the highest, the fairest, and best amongst them. They have become associates of the Royal Agricultural Society for the special object of improving the dwellings and domestic condition of the agricultural population of Ireland. I am sincerely anxious that the tenements of the labourers should be made to keep an equal pace of improvement with the care bestowed on your flocks and on your herds. Looking for a moment, and only for a moment to the general condition of the country, apart from the special province of agriculture, although the distress caused by the late inclement seasons has naturally told with great and distressing effect in the several districts of the country, yet it appears that the rate per head on the population for the relief of the poor in Ireland amounts at present to 2s. 6d., whereas the rate per head in both England and Wales reaches up to 6s. per head. With respect to that most important subject, the education of the people, it appears that in the year 1841 54 per cent. of the male population and 41 of the female could read. In 1851 this proportion had risen to 58 per cent. of the male population and 49 of the female; and in the last census, 1861, the proportion had further obtained the gratifying increase to 65 per cent. of the male population and 58 of the female. And in the county of Kilkenny, in our immediate neighbourhood, I am glad to find that while the attendance in the National Schools in 1851 was 1 in 10 of the population, in 1861 the attendance had risen to 1 in 6 of the population. There is a small item in statistics that I have ascertained, and which affords me some astonishment, I confess. In the last census of 1861 there were in Great Britain of persons 100 years of age and upwards, 201. How many do you think there were in Ireland, in not nearly so large a population? 765. That fact speaks highly for the health of the old men and old women. The only thing further I have to add to my summary of statistics, and perhaps I should consider it the most important, is that in the last year there has been a sensible decrease of crime as compared with preceding years. Now, my lord and gentlemen, I will only add that this is not a country to despond about. There are now two sets of principles and of influences at work for mastery over its future destinies. On that mountain top which overlooks so great a portion of the country, on the majestic Slievenamon, one set of those principles and influences finds its vent in shrill and ill-omened shrieks for strife, for

discord, and for the bloodshed of those who possess and those who till the soil. The other or counter set of principles breathes through such organs of peace as this and other kindred societies, of which it is the harmonising and healing purpose to spread the knowledge of useful improvement, to encourage the proprietors of the land to reside on their estates, and to take an interest in the land they live on and the men they live with, and to unite all classes and all grades, landlords and tenants, farmers and labourers, in one blessed reciprocity of good will and good deeds (loud applause, amidst which his Excellency resumed his seat).

### EXHIBITION OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

The Annual Show of the Highland Society took place this year at Kelso, the first week of August. Whether regard as to extent and quality, the number of visitors, and the proceeds at the gates, the Kelso meeting must be pronounced as eminently successful, fully equal to any previous meetings of the Society, except, perhaps, in such populous places as Glasgow and Edinburgh. The *Mark Lane Express* remarks:—

The recent meeting of the Highland and Agricultural Society of Scotland, and the address of the President, furnish a fitting text for some few remarks on the agricultural progress of Scotland, to which that Society has largely contributed, by its long continued exertions in various directions—its meetings for discussions on agricultural and scientific subjects, its periodical shows, its museum, the publication of its Transactions, and various prize essays, and the labours of its chemical department under the superintendence of an eminent scientific man. The Highland Society, as regards agriculture, is, we believe the oldest in existence, having been instituted in 1784, its exertions therefore dating more than half a century before the establishment of England. It is 31 years ago since the Society held its periodical show at Kelso, and the general advance in that period has been very considerable. Steam has accomplished great things since then for the country generally, as well as for agriculture in particular. Old hands must have been astonished at the display of 1,000 implements of various kinds—at the unusually large number of reaping and mowing machines, at traction engines, the cultivation of land by steam, and the various combined powers which the steam engine has effected. Live stock and crops have also improved amazingly; and the Scottish farmer of to-day is a very different man from the farmer of the early part of the century: he has not so

much bigotry or self-opinion: he inspects without prejudice new inventions brought forward, and listens with attention to the scientific lectures of the agricultural chemist.

In the words of the noble president and chairman of the society, the Duke of Argyll, agriculture is not merely an industry or an art, but, in the highest sense of the word, a science, and as a science it is to be promoted and cultivated just as other sciences are; and, indeed, the progress of agriculture is even more dependent upon the prosperity of these societies than on the progress of the more purely speculative sciences. If scientific agriculture is needed anywhere, it is in Scotland, and the advances that have been made testify to its advantageous results. Notwithstanding a large amount of rugged soil, it has a very fine climate for many kinds of agricultural produce. The power which has been given to a man of modifying to his own use the animal and vegetable kingdoms, of creating almost, as it were, new species for his own benefit, is one of the greatest mysteries of the world.

We avail ourselves with much pleasure of the following description of the late Exhibition, from an excellent letter addressed to a city paper, by a Canadian, who was present at the meeting:

*To the Editor of the Leader.*

KELSO, SCOTLAND, Aug. 8, 1863-

During the past few days this town has been a scene of great attraction to all interested in Agriculture from having been again selected, after a lapse of thirty years, for the great annual show of the Highland Agricultural Society of Scotland. This Association has had a most important influence in promoting a scientific farming throughout Scotland, and was instituted many years since by the sixth Duke of Argyll, and others, as the Highland Society, with the special design of improving the condition of the Scottish Highlands and Islands. Gradually extending its operations and benefits, the Society altered its name, and embraced all Scotland within its sphere. From the great landed proprietors of Scotland the Society receives the strongest support, many of them not only contributing largely to its funds, but giving personal attention to its management and entering the lists as competitors for its prizes. While this liberal support on the part of the nobility and gentry of Scotland is an evidence of enlightened public spirit, it may also be noticed that no class has benefited more by the progress of Agriculture than the great land owners. By means of high scientific farming landed property is made to yield a far larger return, and in almost every case the incomes of proprietors have been greatly increased. In this country influence and social position are invariably connected with landed property, and rarely attained without it, and the fact is creditable to the lords of the soil that as

a body they are distinguished by the active discharge of the many responsibilities and duties which their often immense possessions entail upon them.

The situation selected for the great show was almost unrivalled for beauty and convenience. Through the liberality of Sir George Douglas of Springwood Park, a portion of his Park, 14 acres in extent, had been obtained, lying close to the town of Kelso, and to the Railway Station. In front of the ground flows the united Teviot and Tweed, while across the River may be seen Kelso with its picturesque old abbey, the ancient historical ruin of Roxburgh Castle, and Floors Castle, the magnificent seat of the Duke of Roxburgh. In parallel lines long ranges of open sheds had been erected, simple and far from ornamental in construction, but with this advantage that scarcely a nail was used in putting them up, the timbers and planking being taken down almost uninjured by the temporary use. The mode of construction was an experiment, but a most successful one, and the great ranges of sheds and buildings are only estimated to cost £1,000—a small sum when the amount of accommodation is considered. At considerable distances through the grounds were placed watering troughs with an abundant supply of that necessary article, drawn from the Tweed by a fire engine, which filled a temporary cistern of lead erected on scaffolding at such a height as to drive water through the numerous supply pipes, and also to keep running a very elegant fountain in front of the Society's headquarters. This plan of giving an abundant supply of water is an admirable one, and might be adopted with success at the Canadian shows where those in charge of animals have sometimes a difficulty in carrying it from a distant part of the ground. Ample supplies of provender for animals were sold at a building in a corner of the ground, and in the centre were refreshment booths for visitors, the prices of all articles sold being very moderate and controlled by the Committee. As compared with the splendid Crystal Palaces and out-buildings occupied by the Upper Canada shows, the Highland Society's were wanting in appearance and effect. Long ranges of low sheds, entirely open on one side, were the only accommodation for animals, the owners having to protect the less hardy kinds by canvas or blanket screens fastened up at night. For the agricultural implements a long shed, open on all sides, was the only provision, while the seeds and specimens of farm produce were little better protected. Had the weather proved less propitious than it did, a good deal of injury might have resulted from this exposure, and Canadians may congratulate themselves on the enterprise and liberality which provide accommodation so superior in almost every respect for our own annual exhibitions. It must be explained, however, that the Highland Society's show is a purely agricultural one, and confined entirely to specimens for practical farming purposes. There

is therefore not the same need for immense buildings to cover the collections of arts and manufactures, which form so attractive and useful a part of our own exhibition.

The entries at the show were as follows:

Cattle .....	245
Horses .....	127
Sheep .....	532
Swine .....	96
Poultry .....	(lots) 231
Implements .....	1,161

As comparatively little versed in the distinguishing excellencies and advantages of the different classes of animals, and, therefore, only able to give a general idea, I am unable to contrast the Kelso show with the annual Canadian exhibitions. No one, however, could examine the magnificent specimens of cattle, horses, sheep and swine, without seeing that the finest of each class which Great Britain could produce, were here exhibited. Very many of the animals had been successful at other shows, and not a few were distinguished by strings of medals round their necks, the trophies of former victories. One could not help fancying that the beautiful prize animals walked with prouder and more elastic step, and with loftier heads from some instinctive knowledge that the honors they bore distinguished them above their fellows.

In cattle, the locality where the show is held each year generally sends the largest and finest display. Thus from the border counties were, this time, exhibited Ayrshire cattle of great beauty. Fed upon rich pasture in summer, and large juicy turnips in winter, this useful variety here attains great perfection. A splendid cow exhibited by the Duke of Athol attracted great attention, attended as she was, by a bonnie Highland lass in full costume, as dairy maid.

Though not so fine in point of breeding, nor so handsome, the polled Galloway cattle appeared to great advantage. This class of stock were found admirably to answer in those parts of Scotland where the winter is trying and the food coarser in quality. They are hardy animals, yet good milkers, and are strongly recommended by Scottish judges to the attention of our Canadian farmers—by many of whom they have been most successfully tried.

From the West Highland hills came a breed hardier still, with rough coats to enable them to resist the keen winds of their native mountains. These West Highlanders are purchased lean and rough in large numbers by border farmers, readily and quickly fattened on turnips, and sold during the winter or spring for the great cattle market at Newcastle, from which London and the manufacturing districts draw their supplies. Is it not probable that West Highland stock, with perhaps a cross of some finebreed, would answer the wants of our farmers in the back towns, where want of fodder is at times so severely felt. In winter on the Highland hills they can live well where other cattle would

starve, and in the summer or autumn they would soon fatten in the woods or meadows. Many of them are good milkers, though of course far inferior in this respect to the polled Galloways or Ayrshires.

Of horses the show was not so large, nor so attractive, by far the larger number being of the large Clydesdale breed, so useful for farm purposes, but far too clumsy and heavy for the requirements of most Canadian farmers. In ploughing heavy clay soils, in drawing heavy weights at a slow pace, these immensely powerful horses are unequalled, and the finer specimens of them are purchased for London brewers and Liverpool dray-horses. The Lowland farmer has now little need for animals adapted to road work, the network of railways bringing his coals, lime, and artificial manures almost to his door, while his produce is easily dispatched from the station. Powerful animals to work on the farm are therefore what he needs, and the Clydesdales meet the want. For other purposes the entries were not so numerous, but a few beautiful animals for hunting showed to great advantage.

In raising sheep the Border farmers have long been noted, and nothing could have been finer than the display of Leicesters. Their beautiful wool and symmetrical proportions were much admired, and afforded evidence of careful management and abundant food. From the neighboring Cheviots came many fine sheep of that beautiful variety, hardier than the Leicesters, affording better mutton, though not equal in quality or weight of fleece.

The swine were wonderful to look at, though of unwieldy size. This year the rule had been laid down that all the animals shown should be able to walk, but evidently a long promenade was not contemplated in many cases. The fattest porker at the show died suddenly towards the close from pure suffocation, not being able to stand the heat or want of air caused by the crowds of visitors who were round his stall from morning till night. The long round fat bodies, with short legs and snouts, would have delighted the eyes of fat pig fanciers across the Atlantic, but at the same time the fattest pork is not to every one the most palatable.

In case it may be thought that more praise is given to the cattle and sheep than their comparative excellence would merit, I must explain that since the admission of foreign and colonial grain free of duty, farming in this country, and especially in the border counties, has been undergoing a complete change. Unable to grow wheat at a profit, the farmers have turned their attention to cattle and sheep, and fields of green turnips to an immense extent now take the place of yellow grain in the landscape. It is from the sale of his fat stock that the farmer now pays his heavy rent, grain occupying a secondary place in his calculations. Increased care has thus been given to the breeds of stock, and the superb specimens exhibited at the show afforded

evidence of what care and attention can produce.

During the past few years a wonderful improvement has taken place in the style and appearance of farms generally. Handsome houses, many of them fitted up with every convenience and luxury, and large and capacious farm buildings are seen in every direction, while the long chimney shows that steam power is now all but universal. These farmers, it must be remembered, are men of large capital, paying rents often of £1,200 or £1,500 per annum, and in his speech at the agricultural banquet the Duke of Argyll mentioned farmers who, at the commencement of 19 years lease, and before they could receive a penny in the shape of interest or return for their capital, had expended from £5,000 to £10,000 of their own in the improvement of the soil. The small farmer with little capital has now no chance of success in the better cultivated districts, and is gradually being supplanted by those who bring capital and science to bear upon the 1,000 or 1,500 acres embraced in their leases.

The result of the show is a great satisfaction. At the doors were collected about £1,400, a larger sum than at any show excepting those of Edinburgh and Glasgow. 20,000 visitors are estimated to have passed the gates on the three days, and on the Wednesday afternoon, that being also the day for St. James fair in the immediate vicinity, 20,000 visitors paid their shilling.

The banquet was a great success, 400 gentlemen and farmers sitting down. The Duke of Argyll occupied the chair, and spoke with eloquence and effect. The Duke of Buccleugh also spoke in a very happy manner, his speech being however more characteristic of the fox-hunting country gentleman, than of the man of great information. The Duke of Athole appeared in the show ground, but not at the banquet, his sad state throwing a gloom over all his friends. This nobleman is slowly dying of cancer in the throat, his case being given up as past hope. His loss will be much felt by his tenantry and especially by the Highland Society.

But I must draw this letter to a conclusion, and pack up my trunk for other places.

With best wishes for the success of our own approaching show, and hoping that it may soon rival in farm stock, as it excels in many other respects, the exhibition in Scotland,

I remain, yours, &c.,

"VOYAGEUR."

## AMONG THE SORGHUM GROWERS.

Each succeeding year has given the closest observers and experimenters increased confidence in the profitableness of this crop as one of our staples. The tendency has also been to concentrate the growth so as to be able to work it up with larger and more able machinery than

could be purchased by single individuals. Among those most extensively engaged in the business is O. N. Brainerd, of this city. His manner of operating has been to agree to put up the necessary machinery at such points as the farmers would contract to furnish a certain number of acres of cane, delivered at the mill ready for working up. A recent trip among these contractors and mills gave us the following items.

*At Manteno.*—There are about 400 acres contracted for from about 50 growers, and perhaps 100 acres outside of that contracted. An engine of 40 horse power is being put up at this point for working up the cane. A main building 32 feet square for mill and evaporator has been erected, with additional sheds and storage.

*At Kankakee.*—About 200 acres are contracted for from 15 growers, and some 50 acres are expected to be brought by railroad from Chebanse. The same sized buildings are being erected at this place, and a fifteen horse engine put up.

*At Bourbonais Grove.*—There are 500 acres contracted for. The same buildings as at the other places, and engine of 20 horse power for driving the works.

*Clifton.*—About one hundred acres are grown and will probably be worked up at the station by a portable engine, or transported to Kankakee.

*Onarga.*—Four hundred acres are contracted for at this point and will be worked up at the steam mill in this village; separate buildings having been erected for the machinery.

*Pera.*—Five hundred acres are contracted for from fifteen growers; a 20-horse engine is put up here for driving the machinery.

*Bulkley.*—At this place the business is conducted by Ira A. Mauley, who has contracted for some 400 acres of cane, good buildings have been erected and a 25-horse power engine is in place to drive the works. At the place we found one field of the Imphee that was of as fine growth and even as any field ever grew; much of the remainder was uneven and would yield only about three-fourths of a crop.

The condition of the cane at all the places mentioned would give about the same yield—say three-fourths of a crop. The evaporators at all these places will be of the improved pattern of O. N. Brainerd's.

It is the calculation to boil the juice down to about 65 deg. Beaume, and then ship direct to the refinery in this city where it will be filtered and then boil in a vacuum pan. In this way it is expected that an article of sirup will be produced that will compare with any thing that is in the market; certainly it is, the quantity made will be sufficient to give our "Eastern Cousins" a taste of what we can furnish from the prairies.

Since our visit a severe frost has occurred which has injured the cane in many places we fear, severely.—*Prairie Farm.*

## DESTRUCTIVE FROST IN ILLINOIS.

The *Prairie Farmer* gives the following account of a very severe frost which occurred in that state at the end of August. There was a very slight frost about the same time in this country, but it did very little, if any damage.

The Northwest was visited on the night of August 29th with one of the most damaging frosts ever known. The corn crop retarded in its growth by the drouth of June and July, was not sufficiently mature to withstand the attack, and hence over a very large extent of territory has received a killing blow. The sugar cane is in like condition—perhaps not so badly damaged. Tobacco, melons, tomatoes, beans, buckwheat in fact all growing vegetation has suffered in like manner. We have not particulars sufficient, at hand, to enable us to place any estimate upon this severe loss—the extent of counties that has suffered must be very large. We regret that we go to press before the letters of a number of our regular correspondents can reach us. In another column will be found a few relating to the subject.

The telegraph brings to the city dailies, reports from many localities that we have not yet heard from. From them we gather that severe damage has been done in Sangamon, Stephenson, Winnebago, Bureau, LaSalle, Knox, Mason, Putman, Kendall and Kane counties. We may therefore conclude that all corn, cane, &c., on low grounds is materially injured, probably half the crop of two thirds the entire State has been cut off. So far as we can learn the damage in Wisconsin and north is not so severe as in this State; still the crops of Wisconsin, Iowa, Minnesota and Michigan are more or less injured.

Doubtless some of the reports given at the moment of disappointment will be found exaggerated, especially in regard to the corn and sorghum. But the more tender crops, like tobacco, beans, &c., must prove almost an entire failure in regions where it was most severe.

Fruit seems for the most part to have escaped with slight injury.

Next week we shall be able to present a more intelligent statement of the effects of the frost. If the injury is as great as we at this time fear, it must be materially effect prices and prospects. Let us hope for the best.

## NEW IMPORTATION OF STOCK FOR COBURG.

We always chronicle with special interest and pleasure anything which promises to improve the quality of our horses and cattle, and the advancement of the interests of agriculture, and, therefore, we gladly give the following extract from the *Banffshire Journal*, of Aug. 4th., to our readers.

## GOOD PRICE FOR A YOUNG DRAUGHT STALLION!

The fine three year old horse, with which Mr. Wilson, Durn, carried the first prize in his class, at the Royal Northern Agricultural Show, at Aberdeen, on Thursday, has been sold to Mr. Robert Copland, to go out to Canada. The price agreed upon is £200 sterling, (\$1000). This fine young horse is named "*Young Comet*," he was *first* at the Banff and Turiff Show as a yearling, *first* at Aberdeen last year as a two year old, and was again *first* on Thursday. His Sire is Mr. Wilson's "*Grey Comet*," and his dam a Clydesdale mare. Mr. Wilson, it will be noticed, was, on Thursday, presented with the Gold Cup (valued at 50 guineas,) which he gained at the Spring Show with his Stallion "*Eclipse*." "*Eclipse* is half brother to "*Young Comet*," and is after Mr. Wilson's famed horse "*Emulator*."

Mr. Copland who is a nephew to Mr. P. R. Wright, of this Township, returns to Canada to Farm, and in all probability will settle in this neighborhood. Along with the Horse he will bring a young Clydesdale Mare, of famous descent, several of the prize Ayrshire Cattle from the "*Kelso*," "*Highland and Agricultural Society*" show, and Leicester sheep from the flock of "*Brayden*, of Mudlaw." Such stock coming into Canada, we have no doubt our agricultural readers will hail as an enterprise deserving every encouragement. There is no doubt whatever that if they arrive safely, a great boon will be conferred on the County of Northumberland. Already possessed of the Provincial prize herd of Ayrshires, when these noted animals are added to Mr. Wrights unbeaten Cream Pots, we will trust the agricultural honors of Cobour in his hands without prejudice in favor of any breed of cattle. We see clearly from the marked progress of the Ayrshires, both here, in Britain, and especially gaining in France, that they are rapidly gaining the confidence of the agriculturist. Who can help believing that in Canada especially, there is a peremptory necessity for another source of profits from our cattle, than barely the selling of the carcass at 3 and 4 cents a pound? We want butter, cheese and milk, and a cow which after having paid in these at 100 per cent profit, will yield beef equal to the "*Killos!*" Such properties are claimed for the Ayrshires, and we heartily wish Mr. Copland and Mr. Wright every success in their hazardous enterprise.—*Cobour's Star*.

THE COST OF A BUSHEL OF CORN.—The Chester County (Pa.) Farmer's Club, in discussing the question—"What is the cost to the farmer of a bushel of corn?" showed that the cost of that grain in Pennsylvania is less than we had supposed. The Treasurer said that his corn last year cost 28 $\frac{3}{4}$  cents per bushel, after allowing 6 per cent. for interest on the land. The average cost of his corn crop for six years previous to the last, was 22 $\frac{1}{2}$  cents per bushel, and the

average yield 58½ bushels per acre. Another member said the average cost of his corn for the last five years was 24½ cents per bushel, and the average yield 56½ bushels per acre. His farm was purchased five years ago for \$110 per acre. Of eleven estimates made, the highest was 29¼ cents per bushel, and the lowest 21½ cents, make an average cost of 25½ cents. The selling price, taking ten cases together, was 75½ cents per bushel, leaving a profit of 30¼ cents.—*Boston Cultivator.*

CULTIVATION OF TEA IN CALIFORNIA.—Mr. H. B. Sontag, near San Francisco is trying the experiment of cultivating tea. He has a thousand plants of this year's growth, raised from seed obtained in China. California is adapted to most every kind of Agricultural production, and probably the tea plant will thrive there. Three or four years must elapse before the leaves will be suitable to pick, and the success or failure of the experiment determined.

THE WINE PLANT.—We see by the *Illinois Farmer* that our western friends have been slightly humbugged in regard to a new agricultural production called the wine plant, which, according to those interested, was to bring untold wealth to the producers. Thousands of plants were disposed of, and as a consequence thousands find they have made a large addition to their stock of *rhubarb*.

## The Dairy.

### ON BUTTER MAKING.

EDITORS OF THE CANADIAN AGRICULTURIST—GENTLEMEN.—I am obliged by your sending a copy of the August number of your Journal, and am glad to find several articles on the Dairy.

The article on the Relation of the Food of the Cow to the Milk, is one of much importance, for although a poor ill-bred cow will perhaps, under the most judicious feeding, never produce good milk or plenty of it, it is equally true that the produce of a really valuable animal, may be increased in quantity, as well as in quality, by care being taken in the selection of the meat.

The writer on Milk has evidently thought much on the subject and it would be conferring a further favor, if he would now give the public his views on the management of that delicate article, from its being drawn from the cow till converted into butter and cheese; as much that nature produced in a perfect state is marred by the ignorance and carelessness of man, and milk is not an exception.

The short article on the treatment of the cow is well worth the attention of the dairy farmer; too little attention is given to them in this country, and suppose it is much the same in

Canada; the cow's paradise is in Holland and Germany, there they are curried-combed till as sleek as a race-horse and every attention given to their cleanliness and comfort, no doubt the calculating Dutchman finds this to his advantage.

The ten rules on butter making are about the most concise I have seen; the writer evidently is a "practical man," and may perhaps from long experience make a fair article of butter; however, for those who really want instruction a much fuller account than this would require to be given, of the management of the milk and cream, and temperature during churning; the frequent use of the thermometer would be found more useful than the crooked sixpence that is sometimes put in to charm the churn. The time for churning, 40 to 50 minutes, is much too short: when the churning is carried on rashly, or the cream too much heated, either by churning or admixture of too hot water, the butter gets too soft, and of a white colour.

There is much difference of opinion about the washing of butter when taken from the churn. When butter is to be "cured" it is thought by some that in place of steeping the butter in fresh water, it is better to work out the butter-milk into cloths which are occasionally wrung dry. I have also been assured, that the use of brine for cleansing the butter after churning is preferable to pure spring water; either of these modes it is thought retains the fine flavour of the butter, which is apt to be bleached out by fresh water. Mr. Adam has a salutary dread of lime in hard water, but is he quite sure that he is not mixing lime with the butter with the salt he uses? Most of the common Cheshire salt has lime in it, hence one reason of the non-keeping of butter in our day; formerly Scotch salt made from sea-water was procurable, now such a thing cannot be got, for the simple reason that it cannot be made to compete with the Cheshire salt.

If the writer would inform the readers of the Journal why more salt should be used when the butter is soft, then when it is hard, it might be useful; he may have found this in his experience, but I do not think it is known here. As taste varies so much I should think salting in that way would be very unsafe, a rule in this cannot be too closely followed, the great point is first to know the taste of the market to which the butter is destined, and then in no case to exceed the required quantity.

The great drawback to Canadian butter is its excessive saltiness, it is not the great quantity put in that preserves the butter; a proper quantity of "pure salt" applied as soon after churning as possible is what is wanted; the difference in the price of first and second class butter in the British markets has become much greater of late years than it formerly was; the market premium on success in the attempt to make first class butter is now little less than 20 per cent, with such inducements before them it may be

■ supposed our enterprising Canadian butter curers will not relax in their effort to improve.

I have been recommending the use of St. Ubes "bay salt" as it is called, but the crystals are so large and hard that it is very difficult to get them into powder either by grinding or pounding, besides, this salt from being made by the action of the sun on sea water is not so pure as it would require to be, but then it is free of lime; various experiments are now being made here, both by salt manufacturers and butter curers to improve and test its quality and if successful I will let you know in a further letter.

W. MN.

Leith, Scotland, 27th Aug., 1863.

## Veterinary Department.

### HOW TO BUY A HORSE.

In order to make a thorough examination, it becomes necessary to consider the height and condition of the horse, not only in the stable, but also when led out of the stall, and outside the stable; in a state of repose, and in motion.

Horses are measured with tape and rule. The tape measure is somewhat deceptive, as a low horse, with a well rounded, fleshy shoulder, may measure as much as a taller but thinner animal. The rule is, therefore, to be preferred; this is a simple stick, with a short, movable arm, at right angles; the long part is divided into inches. To measure a horse correctly, it should stand perfectly level and care taken that the seller practises no tricks, such as putting the forearm on higher ground; chucking it under the chin, to make it hold up its head, or even grasping the mane from the opposite side, apparently for the purpose of noticing the measurement. Notice should be taken, also, whether the horse is shod or unshod; whether the shoe is high or low. To secure a good span, the height of the head should be observed; also position and movement of the crest (neck). A good match as to colour is of less consequence than a similarity of temper. The examination in the stable is a delicate matter. A horse which lies down, and on being called, does not rise quickly generally suffers from bad feet; a tired animal stands on two or three legs, and is apt to lean its head against the manger; this, however, is the case also with lazy horses. Crib-biters are easily found out, if the seller has not smeared the crib with soap or grease.

Perfectly sound and kind horses look at persons entering the stable pleasantly and fearlessly, and not unfrequently neigh. Tricky ones lay back their ears, snort, and snap. Shy horses always act timid and frightened. Slow eating and difficult, audible swallowing are signs of trouble in the gullet. Biting of

crib and halter, also drawn up belly, betoken animals that feed poorly. Worms in young horses are easily detected; the animal thus affected rubs its muzzle against the crib. Horses affected with the staggers take large quantities of hay out of the rack, throw it down, eat it slowly and at intervals, seemingly listening as if surprised. They keep their food in the mouth a long time without swallowing it, and have a dull, fixed look; they also push their heads against the wall, or into a dark corner. It is an often practised trick with dealers to drop some oil into the ears of such horses, or a little cayenne pepper applied to the passage to make them look attentive and spirited. Broken-winded horses have a short, dull cough, with a double beating of the flanks.

Are the horse's feet on a level, and one hip higher than the other? then he is one-sided. If perceptible in any other position, it must be the result of disease in the muscular part of the croup.

Stiff hair in the tail, and bare places on the same, indicate itching; sore spots, suppurated sores, or scab, betray the scab. Horses with visible or invisible spavin are loath to step from one side to the other. Windgalls seldom impair the usefulness of the animal.

Clap in the sinews betrays itself through swelling and pain in the tendon, hindering the horse from stepping firmly, which ultimately results in a stiff foot.

The mallenders, appear mostly in the hind pastern joints, are recognised by more or less deep cracks and sores, emitting an unpleasant, bad-smelling fluid. This sign distinguishes it from wounds caused by over-reaching. Neglected cracks, with warts covered with stiff, bristly hairs, are the indication of malignant mallenders, known under the name of crown-scab. The hinder hoofs should be well examined, particularly the coronet, to see about wounds from striking. Look well at the frog, to see if there are any ulcers or cancer; the latter disease may be considered incurable.

The examination of the horse, outside the stable, relates particularly to eyes, muzzle and nose. The contraction and expansion of the pupil of the eye deserves special attention. Amaurosis may be recognised by an immovable pupil, and a beautiful black colouring of the eye.

Albugo may be detected by a speck of a white or mother-of-pearl colour in the eye, or a turbid look of the same. Closed eyelids, with inflammation and watery flow, are mostly the cause of some hay or dust, or even of whip-cuts, and seldom dangerous. The last-mentioned cause is frequently adducted by unprincipled horse-dealers as a pretext to conceal more dangerous evils; and the utmost caution is needed. Slight inflammation and dimness of the eye result sometimes from the

shedding of the teeth. Is one eye smaller than the other? it indicates impaired or lost sight. Wrinkles in the upper eyelid betray a weak sight. Periodical inflammation of the eyes may be recognised by the peculiar position of the inside corner of the eye, continuous slight flow of tears, hairless shiny spots below the eyes, and shunning the light.

Next in order comes the examination of the mouth. Finding out the age, but be not deceived by artificial marked teeth. Often the dealer likes his horse to seem older than he really is, which he effects by drawing two milk-teeth, thus making the horse appear one year older. If the fore and middle teeth appear badly worn, it indicates a crib-biter. Knots on the lips, as large and larger than peas, betray farcy; also knots and stringy swellings on the throat, the ribs and the inner part of the hind leg. The nose and the throat deserve careful looking into. A greenish yellow or whitish flow, from one or both nostrils, more or less swelling of the glands of the throat, and a cough, with expectoration of phlegm, shows the strangles. Suppuration of the glands of the throat results from the same cause and is not dangerous. A sticky, ash-gray flow from the nose, and milk-white membrane, with a hard, moveable, and almost painless appearance of the glands of the throat, are bad signs; but if at the same time there are ulcers on the inside partition of the nose, then it is a complete case of glanders.

Dishonest dealers clean nose and nostrils, put oil or fat inside to produce an easy flow, and prevent the hardening of the same. They also employ caustic to produce a healthy appearance of the glands.

The examination of the horse out of the stable should both be in a state of repose and action. A healthy, lively animal breathes, on coming into the air, easily and with open nostrils; while a wind-broken horse breathes with widely extended ones, making a most singular motion with the same. Horses thus effected are exercised before the sale, which improves their breathing. Dropping or hanging the lower lip is a sign of prostration. Nettlesome horses are apt to hang their tongues out. A touch with a hot iron is the rogue's cure of this fault.

After having carefully examined ears, gullet, crest and posture of the head and neck, the mane, chest, withers, shoulders, forearm, knee, shank, pastern and hoof, lift his fore-foot to look at the sole, and also to find out whether the horse can be shod; and proceed likewise with his hind legs. Look also at the spot where the animal might have been bled, or had application of an issue, on head, chest, belly and throat.

Lifting the hoof, stepping (or reaching), and putting the foot down are three actions which should take place at the same time,

regularly, vigorously, and quickly. Horses with lame withers or shoulders cannot lift well the leading fore-foot, and are not sure in the act of reaching. A bad hoof is seen in the incomplete act of stepping and treading. The tread of a horse with the staggers is insecure and heavy. Avoid horses that strike the fore-feet with their hind-feet; those that throw their fore-feet outward too much; those with too fleshy hock; and those that interfere or kick. Aside from all that has been said above, it is of the utmost importance that the buyer should always bear in mind for what purpose he wants to buy a horse.

Stiff horses are improved by exercise, prior to the sale; lame horses are exhibited on soft ground. Lazy animals, or stupid and inattentive are made active by the sound of the whip. Common or even cayenne pepper is introduced into the passage, to make the horse carry his tail high, and improve the position of the croup. The latter trick may be discovered if the horse passes dung frequently during the examination. Gray hairs over the eyes of old horses, light spots, and even the feet are dyed, which trick can only be found out after the horse sheds its coat. To guard against all the tricks of the trade requires a knowledge of the outward appearance of the horse, as well as its anatomy and physiology, to which may be added pathology; and no connoisseur or veterinarian should be without these qualifications.—*Horse Owner's Guide.*

#### IRRATIONAL CUSTOM OF APP'YING BANDAGES AND KNEE-CAPS TO HORSES.

To point out bad customs is to make one step towards the introduction of good or better methods of practice, and is, perhaps the most certain, though indirect way to effect good. The custom of bandaging horses' legs has gone on increasing until it has reached the extreme bounds of absurdity. The most valuable of our horses are those the most exposed to the custom. Bandages are of various kinds: flannel and linen are used in the stable and on other occasions when horses are at rest, whilst other material is often applied when they are in work. To ask a reason for bandaging would be to solicit an answer in no way tending to enlighten one. By different people, all manner of excuses will be given to explain the *modus operandi* of bandaging, for the very good reason that no one rational explanation can be found. Bandages, we shall be told, keep horses' legs warm; they are also said to cool the legs, make them look fine, save labour—viz., hand-rubbing. Then the various elastic bandages, acting by comparison, are thought to sustain, and also defend from cutting. The above are only a few of the apologies ready to defend the



custom of keeping horses' legs tightly bound up in swaddling clothes

As to knee-caps, they are almost as customarily used now as the bridle, or any other essential thing amongst stable equipments. If horses go to exercise they are knee-capped; if they are taken to be shod, the same; and if sent a journey on foot, by rail, or the sea, their legs are benumbed by knee-cap constrictions. Knee-caps must be endured; and, to be kept in position under the varied movements of the leg, they require to be buckled so tight as almost to stop circulation in the limb; which would certainly be the case but for the wonderful provision of nature in so bountifully distributing the blood-vessels which keep up the circulation in the foot. But for these provisions the loss of a foot, or even a part of leg, would be common occurrences amongst horses. As it is, though these extreme consequences are rare, the writer has seen a case, in a valuable horse, where mortification in one fore leg resulted from a tightly applied bandage.

A few words on the use of bandages, to deny the value of which would be to under-estimate one of the main resources in surgical art; but there is a wide margin between use and the abuse to which we are directing attention—water dressings with the nicely applied bandage, which by easy compression effects a given required purpose: these are of great importance. Then, again, in the management of race-horses and hunters, bandages are of use when applied so as not to constitute an abuse; for instance, when such horses return to their stable from hard work, nothing is so effective and refreshing as the process of cleaning them, by properly washing the legs over knees and hocks, as is done by placing the horses' foot in a pail; after which the sponge should be assiduously applied to remove the water. Then they should be rubbed with a wash-leather or clean straw, and afterwards woollen serge bandages should be even and not tightly applied from the feet to knees and hocks. This is sound practice. Thus the horse is put into comfortable—viz., a salutary state. The groom then proceeds to finish dressing him over his head and body—which will take from twenty minutes to an hour—when the bandages should be taken off, and the legs rubbed with dry straw, linen cloths, hand, or alternately of all these; and if the stable be clean and properly ventilated, the animal will be in the best possible state to speedily recover from the fatigue, and to be fit for work again.

Whilst pointing to this use of the bandages we are not sanguine of its being preferable to rubbing the legs dry, only that time is economised, which is an object gained, favourable to the groom of some otherwise required labour. We agree in all the uses of the bandage, both as an agent in the hands of the veterinary surgeon and for the contemporary application, as above shown, in stable management; but would no

more allow horses to stand muffled up during the whole night, or any considerable part of a day, than we would go to bed with worsted stockings on our feet and legs.

It should be needless to say much more about knee-caps; it might be thought, looking at the bolstering-up customs, that the horse was the most infirm and unsafe of all quadrupeds, or even bipeds, instead of being the most agile, powerful, and beautifully formed, as he is.

A late friend of ours used to say, "You may tell the measure of a man's brains by looking at his boots. Now, if we try the test by the way people manage their horses, their feet and legs especially, the results will be startling; some apply leather soles and tar to the bottom of their horse's feet, and then jam and nail the whole down under an iron shoe; then they begin and bandage, which process consists of flannel passed several times round from the horses' knee to the hoof; and then, as before said, on frequent occasions, above all these the knee caps are strapped round, acting like an imperfect tourniquet.

Oh! if the poor horse could speak, what would he not exclaim against his tormentors? It never enters the mind, or at least the subject has not been recognised, so as to lead people to understand that a horse's feet perspire, that legs also, like the whole surface of his body, exhale and breathe every instant during life; and yet he is treated somewhat analogous to the placing of his legs in boots impervious of canvas, with a pitch plaster for the sole, and an ill-adapted iron rim to tread upon. All the rest is left to chance, and when the horse becomes lame or sick that goes to the chapter of accidents.

One thing against immediate amendement in these evils is that they are young compared to some others, and may be considered as yet on trial. In the meantime, these observations will be in readiness to receive consideration.—*Cor. of Scottish Farmer.*

### CURE FOR SCOURS IN CALVES.

Messrs. Editors.—A few weeks since I noticed in the *Co. Gent.* an article on "Curing Scours in Calves," in which the writer argued that the correct way to cure the complaint was to doctor the cow instead of the calf, as the milk being in an unhealthy or unsuitable state, caused the difficulty, and that certain ingredients given to the cow would correct and regulate the condition of the milk, and cure the complaint in the calf. Now this theory may be true, and the reasoning correct, but it appears to me that the difficulty is more likely to be in the unhealthy state of the digestive organs of the calf than in the cow, and that suitable remedies given to the calf would be more likely to effect a cure than if given to the cow.

At the time I saw the article referred to, I had a calf that I was fattening, but it would

scour badly if allowed to suck what milk it wanted. I tried to stop the complaint by giving the calf only a small allowance of milk. This helped the difficulty some, but did not cure it. Being in the stable with the calf one day, thinking what I should do with it, as I was satisfied it could not be fattened in the situation it then was, it came up to me and commenced licking the dirt off from my boots. This circumstance led me to think that this might be the remedy that the natural instinct of the calf prompted it to obtain to regulate its system. I then went and got a turf of fresh soil and grass, and placed it before the calf, who instantly began to eat the dirt and roots of grass. The turf was left in the stable where the calf could eat from it when it chose, and in two days it was entirely cured of the scours. Immediately after I let it have all the milk it could take till the time it was killed, during which time no recurrence of the disease took place, and the calf appeared well in all respects. No other remedies were given to the calf, and none of the cow.

Every person who has had the care of cattle has probably noticed with what avidity they will eat fresh dirt when they have been kept away from the ground for sometime, and this fact shows conclusively that this is one of nature's remedies which their instinct teaches them to obtain to keep their digestive organs in a healthy state. Salt, chalk, &c., are things which they seek for, for the same purpose. When they are deprived of these things they often suffer in consequence of it.

I do not wish to convey the idea that all diseases may be prevented or cured by furnishing them with these things, but I think that if those who have the care of domestic stock would carefully study their nature, and observe what their instincts induce them to obtain, and place within their reach from time to time those things which they desire, their stock will do much better, be more healthy, less liable to disease, and better able to withstand the attacks of disease than when these things are disregarded and their stock neglected.

As a general rule I think that "an ounce of prevention is worth a pound of cure," in the treatment of many of the diseases which domestic animals are liable to, and that in many diseases, if at the commencement some simple remedies are judiciously applied, the cost of expensive drugs may be saved, and frequently the loss of life prevented. C. T. ALFORD, *Wilmington, Vt.*, July, 1863.—*Country Gentleman and Cultivator.*

**TO REMOVE LICE FROM COLTS.**—Take one pint of lamp oil and apply to the animal from the top of the head to the roots of the tail, along the back bone, and on each side of the back. It can be removed by soap suds.

## Miscellaneous.

### THE INTERNATIONAL DOG SHOW.

On Monday sen., at the Agricultural Hall, Islington, commenced the most successful and the largest show of dogs ever witnessed in this country. The Prince of Wales and his Princess began the week visiting it, and the example brought all the pride and beauty of the west in its train. Throughout Monday afternoon and Tuesday, a half crown day, a stranger might have judged Islington to have been a fashionable quarter, by the splendid equipages which abounded in the locality.

The Royal party remained in the building for a considerable time, and the Hon. Col. Hood attended on Tuesday to convey to the directors the expression of their satisfaction.

The dog has not unaptly been described as a gift of Providence to man—an aid almost indispensable for conquest and management of the lower animals. He is our friend and companion, uncalculating as regards his own comfort or convenience, and staunch in his fidelity, following his master through all shades of fortune. Unlearned in virtue, the dog, from the promptings of his own feelings alone, practices the most perfect integrity. A long course of domestication and peculiar treatment have, as is well known, divided the canine race into nearly a hundred varieties, all less or more distinct as respects size, appearance, and special qualities and dispositions. He is a character in the book of natural history which well deserves the attention it receives. There is something unnatural in an aversion towards a race which have such representatives as Argus, that faithful hound, which, through the strange vicissitudes of twenty years, cherished a remembrance of his absent master, and was the first to know "his lord"—

“He knew and strove to meet;  
In vain he strove to crawl, and kiss his feet.”

—at Montargis, which belonged to Aubry de Montdidier, and discovered to Charles V. the murderer of its master; as St. Leger's greyhound, which visited him daily for four years while he was a prisoner at Vincennes; as that faithful wolfhound, whose tragic death is told so touchingly in the ballad of "Gelert's Grave," as Sirrah, who immortalized himself by performing that memorable night's work for the distracted shepherd, James Flogg, and saved a whole flock of lambs which he thought hopelessly sacrificed; and as those many spaniels and Newfoundlanders who have saved the lives of children and of sailors near the chill terrors of a watery grave.

All this veneration for the breed (the Egyptians held it sacred) is easily put to the test, however, at Islington. The incessant cry of

nearly 2,000 dogs in an echoing building is rather a difficult trial to bear. One is helped to endure this annoyance by the entire absence of another, that of smell.

The arrangements are exceedingly good. The sporting or field dogs occupy the ground floor, and the galleries are given to all dogs not thus classed. The former are accommodated upon low platforms running lengthwise of the building, and extending round to the back beneath the orchestra. These platforms are ranged back to back with a boarded division between, to which the animals are chained, and littered with straw. The promenades are broad enough for any dress that Fashion may import in her carriage from Belgravia. Kennels have been improvised for the foxhounds, harriers, and beagles, which, owing to the use of a large meshed iron wire, have a light appearance; one of these, containing the famous pack, hunted in France by the Duke of Beaufort, occupies a post of honour in the central part of the arena.

"The English foxhound of the present day is a perfect living model," says a celebrated writer on dogs, "and how he became such it is in no man's power to determine." A century and a half ago there was no animal resembling the present breed of foxhounds; when hunted at all in Great Britain, the fox was hunted by a dog resembling the Welsh Harrier, a rough-haired, strong dog. The improvement in our horses, and the mixture of the blood from the race-course with that of the old-fashioned hunter, has out-fashioned the hound which used to "hang" upon the scent, and produced an animal which will suit the run of our hard-riding modern sportsmen, by "carrying a head." Such are Lord Fitzharding's stud dog Cromwell, Mr. C. F. Colmore's Royal, also his three couple from a pack hunted last season. The heads are moderately small, the fore legs straight as arrows, the back ribs, or "spur place," deep, the hocks well let down, and the chests roomy. As a rule, they are of a small size, though for a country which "carries" we fancy Mr. Villebois's taller animals have a better chance. Some of these we believe to stand 26 inches, or about 3 inches above the general height. Four couple of staghounds, a sort of mongrel bloodhound, of the old New Forest breed, attracted a good deal of attention. They are from the kennel of T. Neville, of Chelland, Hants, and although not possessing the symmetry of the English foxhound, are fine, majestic animals of their kind, and unerring in their scent. They are a heavy breed, black and tawn in colour, with pendant ears. The Harriers were well represented. His Royal Highness the Prince of Wales, J. Saxby Esq., and the Right Hon. Earl Brownlow were amongst the exhibitors. George Race, of Biggleswade, won with his three couples. The beagle, a hound that dwells too long on

the scent for modern habits, and is, therefore, getting neglected for swifter breeds, was not in great force.

The bloodhounds were splendid and numerous. Their awfully deep but highly sonorous tongues could be heard beyond and above all others. These modern representatives of the breed are rather deficient in the wide forehead, expansive nostrils, lips, and long, smooth, pendulous ears, of from 8 to 9 inches in length, of a former breed, but they are swifter than their ancestors. They are generally about 26 inches in height. Some of these dogs can claim alliance to the Duke of Belford's breed, as Mr. Boom's Welcome. The pedigree of the Duke's dogs can be traced back for 300 years. Mr. Forster's Forrister and Mr. Stephenson's Baron are splendid animals. And we must not omit Mr. Best's Juno, by Mr. Ausdell's Lion. The colour for the most part is black and tawn. They are not often found except in the neighbourhood of a deer park, or in possession of "Associations for the prosecution of felons."

Of otter hounds, a breed of dogs fast disappearing, the show was confined to about six specimens of this rough-haired, large-looking terrier breed. Of some the colour is tawn and black, and white and tawn. The Hon. Rowland C. Hills Priestess and Barmaid were the approved specimens.

Of the deerhounds there were 38. Mr. Cridge's grizzle dog Oscar won the first prize; the Earl of Stamford and Warrington's Bran won the second: both are valued at £100. Mrs. Walbrey showed Bear, a great grandson of Sir Walter Scott's Maida. Another Oscar, Beresford Hope's, claims special notice for its beauty.

Amongst the foreign hounds were two exhibited by the Duches of Manchester: Sultan, a Russian Wolfhound, a very tall dog, with long head, terrific mouth, black and white skin of flossy silk, but withal a pleasant expression; and Juba, a North German boar hound, to which the first prize was awarded. There was a German otter hound, smaller and smoother than the English; a Polish wolfhound, black, resembling Juba, a very "American dog," raw-boned, gaunt, and leggy; a black and white boar hound, with square form, Cuba, a slave-hunter of bloodhound mould.

The Monster dogs of any breed proved very attractive, particularly Lion, an African slaver, fairly bred; a noble black and tawn Tartar dog; Season, a slaver, highly commended; a Russian retriever; and an awful black brindle sour looking monster, with two sinister green eyes.

Surely there never was such a show of greyhounds, and it must be no little satisfaction to be a winner in a collection displaying such high merit. The hall contains nearly 100 of this breed. The blood of Figaro, King Cob,

and Snowball, the Emperor, Bugle, and Dusty Miller goes to produce much of the beauty ranged upon the platforms accorded to this much improved race of dogs. Some measure 28 inches. The Setters are exceedingly good. Amongst the pointers there is nothing like Mr. Newton's Ranger, whose *cartes* are selling at 1s. each, although the show is superlative and large. The judges in this and other classes for dogs engaged in field sports, except harriers and foxhounds, namely, the Earl of Suffolk, Lord Suffield, Lord Bury, M.P., Col. Leslie, M.P., George Moore, Esq., and Messrs. Ker, Randel, Wentworth, and Marshal, must in this first prize have experienced considerable difficulty in making their award. It must have required some nice discrimination to do justice to the varying claims of some 194 animals. Opinion seemed to run rather in favor of the small than of the large breed. The class of setters was also fine and large. Mr. Bayley's Bob First, a white dog, with tan head and flossy skin, was very beautiful; also Mr. Dixie's black and white Bounce; Mr. Dodd's Spot, a most intelligent white and tan. Of the black and tan variety the show was good, and the braces of puppies were very pretty. The Irish setters won general commendation, particularly from those who are won by the affectionate look of a dog.

The retriever, a universal favourite, was represented by 148 specimens. Besides the prize animals, we specify Lord Berner's Nero, Mr. Turner's Sailor, Capt. Copathy's Drake, Mr. Griffin's Charlie (a glorious playmate for children), Mr. Hill's two Jets, one a great prize-taker, a fine fellow, with close curling skin.

The spaniels and clumbers, a curious looking breed, with large heads, huge limbs, projecting elbows, long, flossy hair, white or white and tan, and long ears, made a good show.

Beneath the orchestra were cages where bitches, selected from all these breeds, displayed the pleasures of maternity, and suckled their young or tumbled them about, as the case might be, to the great delight of crowds of admiring people.

The galleries, as we have before said, were devoted to dogs not used in field sports. Each gallery gave space for four lines of dogs, with ample room for the circulation of visitors between the platforms.

The sheep dogs form a very intelligent class. Mr. E. Greaves's Yarrow takes the lead. He looks much like the celebrated Yarrow, tried at Edinburgh some years ago for preferring obedience to his master, who was a sheep-stealer, to obedience to the law, and got hanged for it.

Amongst the mastiffs every one stops at that princely fellow named The Governor, Mr. Lukey's, a fawn coloured dog with black muz-

zle. One naturally recalls the old story of Sir Harry Lee, saved from assassination at the hands of his Italian valet by the favourite mastiff, who in spite of all opposition had secreted himself beneath his master's bed. A full length portrait of Sir Harry, with the mastiff by his side, and the words "more faithful than favoured," is still preserved among the family pictures. Mr. Hamburgh's Duchess, connected by matrimonial alliance with Mr. Ausdell's Leo, is a formidable and magnificent animal, so also is Mr. C. C. Layard's, a light tawn, with black muzzle.

One class devoted to foreign mastiffs and watch dogs of any kind contained some wonderful creatures, one or two possessing a striking approach to, or perhaps it would be best to say scarcely any remove from, the wolf.

The Mount St. Bernard breed mustered in great force; at least, there were 19 entries. Most of the dogs were of a red tan colour, with black muzzles. The class as a whole wore a let-me-alone-or-I'll-bite-you aspect, though a general air of benevolence shone through their savagery. This race of dogs exhibit the way in which special faculties are inherited. Their power of tracking footsteps does not show itself before the snow falls, when it seems suddenly to be aroused, even by those dogs which are in England, and which have never known an Alpine winter nor Hospice duty. Mr. Fyler's Thun is certainly the most splendid specimen we ever saw.

The class of Newfoundlanders was, of course, a great attraction to all lovers of the canine race. Their stately forms, sage bearing, and benevolent heads, procure them not admirers only, but lovers. Ladies and gentlemen were coaxing, nay, some were fairly hugging, these curly-coated favourites. Mr. Bowles's Leo, a black dog, Mr. Fisher's Pompey, Mr. Wright's Rover, were all three extremely fine specimens. Probably all these animals have so endeared themselves to their masters and mistresses that when they die they will be mourned as real friends. Who could, without deeply feeling the loss, be called upon to part with such a dog as Mr. Tolly's Neptune, a splendid black fellow, with white shirt front? In that case the words of the pathetic Byron might be adopted:

"But the poor dog, in life the firmest friend,  
The first to welcome, foremost to defend;  
Whose honest heart is still his master's own,  
Who labours, fights, lives, breathes for him alone;  
Unhonoured falls, unnoticed all his worth,  
Denied in heaven the soul he holds on earth.

\* \* \* \* \*

To mark a friend's remains these stones arise;  
I never knew but one—and here he lies."

The bull dogs have a large class of admirers; they are affected mostly by a class of men who hold about the same relation amongst men as the dogs do amongst their own species. The

only redeeming point about them is their pluck and intensity of purpose, which is a quality which always makes itself respected, as was shown in the case of Tom Sayers, who, in spite of his abominable profession, won the loudly expressed acclaim of the country, Bulldogs proper were divided by weight, those over and those under 20 lbs. being considered separately. The bull terriers, a large class, were similarly divided, as over and under 10 lbs. The uglier the animal the greater the chance of the prize. Of black and tan terriers, over and under 7 lbs., there was an endless show. The smaller ones were very beautiful, some were valued at exceedingly high rates, and many were established, like the toy dogs, in most luxurious apartments. One slate-coloured morsel of perfect symmetry, belonging to Mr. Higgins, named the Blue Prince, and valued at £1,000, very much surprised some visitors by giving tongue, which much resembled the sound of a cracked silver bell. The Skyes were wonderful, both for number and breeding. Pepper, Quix. Topsy, Sugar, Charlie, Monkey, Dandy, Colt, Jim, Dan, Sancho, Plin, Jessie, Flo, Sandie, Trousers were repeated in different size and colour, but with the same quaint, long body, and covert eyes, all up and down the platform devoted to the class, times without number. The Dandy Dinmonts seem to have become very popular. Of course we find Peppers, and Mustards, and Dandys, and Whiskeys, and Topsys without end in this diverting class. Were the history of these rough-coated little fellows written as Scott wrote the history of Rab and his friends, and of "our dogs," and as well written, what a charming addition should we have to our canine biography.

The Italian greyhounds are worthy of great admiration for their exquisite beauty. Mr. Burke's Sophy, in a glass-case, which she occupies with two large silver cups, won at former shows, possessing marvellous perfection. There are 12 specimens, of which Mr. Hanley exhibits five. The King Charles spaniels nearly all reside in glass-cases, sleep upon velvet cushions, and drink out of tumblers. There are some very pretty creatures, but most of them seem afflicted with some nose or eye affection, and for all purposes for which a dog is to be desired, one of the Dandy Dinmont breed seems to be worth a dozen of them. Messrs. Mandeville and Gilbert's Blenheim spaniels are beautiful creatures.

There was scarcely a chance of seeing the toy terriers for the bonnets which crowded round them. Thirty or forty of them were to be found under 5 lbs. weight, and tended with the greatest luxury. They ranged in price from £5 to £100. The prettiest lot was that exhibited by Mr. Barton, of Minnie, Topsy, and Rose, black and tawn, occupying separate compartments in one cage. There were

also prizes offered for dogs under 3 lbs. weight, and a class of 8 formed.

The Pomeranians were well represented by 18 specimens, some of which were valued at £1,000.

The poodle, a dog which, under M. Leonard's tuition, was made to talk, was not well represented. Of the Japanese there were several, one, Mr. B. D'Almella's, valued at £2,000.

The Esquimaux, a tawn, and tawn and white breed, with a good deal of the wolf type in look and manner, was well supported. Of the Dalmatian or plum-pudding breed, formerly used to follow carriages, there were several species; also of the Maltese, a breed resembling the Dandy Dinmont, with long, woolly hair. In this class was Mr. Mandeville's Fido, occupying a case filled with silver cups and gold medals, a little creature, covered with white, flossy hair. This favourite's portrait was selling rapidly. Beyond these there were Greek and Manilla terriers, Sicilian dogs, Pugs, Indian, Australian (like a large fox), Chinese (white brindle and slate colour), Brazilian dogs, and a large class comprising various, in which were classed all the dogs that could not be otherwise disposed of.—*Gardener's Chronicle.*

**THE HORSE-CLIPPING MACHINE.**—Among the many ingenious contrivances to be seen at the Smithfield Cattle Show, in the New Agricultural Hall, will be a novel piece of mechanism invented by two French gentlemen, Messrs. de Banat, which bids fair to outstep even the sensation cow-milking machine so much wondered at in the Great Exhibition at Kensington. This is another instance of the great labour-saving principle which seems to tax the brains of all inventors now-a-days, realised in one of its happiest and most successful applications.

The instrument itself is as nearly akin to a lawn-mower as anything can be. It is precisely the same, cutting by a revolving cylinder, upon which are fixed several spiral knives, acting against a fixed blade, and thus forming a scissor. A steel comb is placed underneath, to protect the skin of the animal, and to ensure an even clipping of the hair. The operator holds the instrument with both hands, and moves it cross-grain over the whole surface, like a smoothing-iron. The legs only, together with the lower part of the chest and the head, must still be clipped with scissors; but this may be done by hand whilst the other part are being operated upon by the machine. The inventors affirm that two horses may thus be completed in five hours, requiring only the labour of three men—the operator with the machine, the clipper with the scissors, and a labourer to work the machine.

Thus far, the principal of this new instrument can easily be understood by all who are

acquainted with lawn-mowers; and although this novel and at the same time most useful application of the principle of rotary cutting may not be very strikingly new, the transmission of the rotary motion is in itself a most wonderful effort of mechanical skill and we believe is quite a new discovery in mechanics. The motive power is nearly the same as in a sewing machine. A man holds the handle of a wheel in his hand, and moves it with his foot. The motion is transmitted through a flexible chain as pliant as a rope, formed of articulated links and steel thread, so that the operator can vary his movements as he lists, without the least rigidity in the transmission medium. The motive power and its transmission through the chain are so perfect that the cutting cylinder gives 5,000 revolutions in a minute.

Hitherto in England clipping has been practised, so far as we know, only upon horses. In France it appears that experiments have been made by a celebrated grazier, with the view of testing the effects of clipping upon feeding oxen. Twelve oxen were selected, six of which were clipped. The clipped lot weighed at the commencement of the experiment 52 cwt.; the unclipped lot weighed 56 cwt. 10 lbs. The two lots were fed alike, and at the end of two months the clipped lot weighed 65 cwt. 10 lbs.; the unclipped lot only 61 cwt. 1 qr. Thus the increase per head, in the first lot, had been upwards of 3 cwt., and for the second only about 9 lbs. We quote this report from a paper on the subject published in a French periodical belonging to the Society for the Protection of Animals; but we cannot reproduce at length their respective experiments, which extended over a period of six months, from the glaring and most unaccountable inaccuracies in the figures given, scarcely one of which proves correct. The idea, however, is worth noticing, as it is quite consonant with the teachings of physiology on the digestive organs, and especially on the combustion of the carbonaceous and fat-producing elements of the food in the lungs, to suppose that fat will more readily accumulate in the tissues of an animal where insensible perspiration is not impeded by a thick fur, than in one whose skin is profusely covered with hair. Long hair in winter is a provision of Nature to protect animals living in the wild state from the injurious effects of the cold; but in the domestic life, and especially within warm and comfortable feeding boxes, this winter garment is useless, and evidently pernicious.—*Mark Lane Express*.

**THE GRUB—A CURE.**—During the most part of past week the grub continued its ravages to an increasing and nearly an alarming extent—being almost universal throughout the whole of the northern counties, the cold, backward weather very much weakening the plants, and

allowing the worm a greater freedom for its ravages. Curiously enough, this year the greatest amount of destruction has been upon dry and early soil; whereas in former years the grub used to commit most ravage in heavy, wet soils. All the experience tends to show that the only safeguard against grub is to secure good, sound seed, make the land well, and adopt manure which will aid in quickly advancing the crop. On one farm on which there has been a great deal of injury done by the grub the farmer having apprehensions that a particular field in which there was a good deal of forage would be very bad with the grub, had the land thoroughly harrowed, and before sowing the oats he mixed with the seed a quantity of guano equal to about 1 cwt. to the acre of land to be sown, and sowed by hand the seed thus prepared. The seed was the same that he had sown in several other fields, and while in those where no guano was used the ravages of the grub are extensive, on this field laid down with seed mixed with guano, and on which he apprehended such injury, there is not the slightest appearance of the grub, and the crop promises to be a good one. Another farmer on Deveronside took the same plan with two of his fields, and these are quite free from grub, and exhibit great luxuriance, while the rest of his crop is much injured. We know of other cases where the same plan has been equally successful.—*Banff Journal*.

**WHY HOGS EAT ASHES, &c**—Mr. Mechi, of Tip-Tree Hall, England, has discovered that pigs, when shut up to fatten, are very fond of cinders, and improve in condition by eating a certain portion of them every day. Some persons are unable to account for this singular propensity in swine. Poultry are very fond of egg shells, lime, sand, &c., and it is well known these substances are necessary in order to form the shells of eggs, and to furnish material for the bones of fowls. Now it is reasonable to suppose that swine eat ashes and cinders for the purpose of supplying the material for their bones, and this singular instinct in animals so low in the scale of intelligence, is truly wonderful, for ashes contain the ingredients which are necessary to form bones, viz., carbonate and sulphate of lime and magnesia, clay, silica gelatinized and made soluble by the fire. When hogs are at large, they take in clay and silica with their food, and eat bones and roots, which contain the necessary ingredients; but when they are pent up, they endeavor to supply the material necessary for keeping up their frames by devouring ashes and cinders. Let them have plenty of them.—*Prairie Farmer*.

**DISINFECTING AGENTS.**—Now that the warm weather is upon us, our citizens should thoroughly cleanse their premises, rendering them as pure and healthy as possible. We are convinced that a great portion of the diseases so

prevalent during the hot months in summer, is attributable to the accumulation of filth in alleys and yards. There are a number of disinfecting agents which will be found efficient in removing offensive smells from damp, mouldy cellars, yards, pools of stagnant water, decaying vegetable matter, &c. Either of the following will answer the purpose, while they cost but a trifle:

1. One pint of the liquor of chloride of zinc, in one pailfull of water, and one pound of chloride of lime in another pailfull of water. This is perhaps the most effective of anything that can be used, and when thrown upon decayed vegetable matter of any description, will effectually destroy all offensive odors.

2. Three or four pounds of sulphate of iron (copperas) dissolved in a pailfull of water will, in many cases, be sufficient to remove all offensive odors.

3. Chloride of lime is better to scatter about damp places, in yards, in damp cellars, and upon heaps of filth.—*Scientific American.*

**FRENCH AGRICULTURE—SMALL FARMS.**—Notwithstanding the popularity of the system of the subdivision (*morcellement*) of the land consequent on the law of succession, one of the relics of the revolution, it is evident that its most strenuous advocates begin to have strong misgivings as to the working of the law, and to suggest remedies for the counteraction or removal of the evils it entails. For instance: If a man holds four fields, one of which is, say, a vineyard, another pasture, a third arable, and a fourth wood—the whole comprising four hectares, or not quite ten acres—and he dies, leaving four children, each of those survivors may claim a *fourth part of each field*; and thus *the four hectares may be divided into sixteen parts*, to be again subdivided in case of death of the owners having children. In Germany this *morcellement* had risen to such a height that it was found necessary to pass a “law of consolidation,” by which all the lands of a commune were thrown together, and then the proprietors received each an adequate portion in one piece; and it is recommended to follow the same plan in France, but it appears neither the Government nor the present proprietors (of whom there are between five and six millions) are favourable to such a measure, although some of the first men in France (amongst whom is M. Leoncé de Lavergne) are in favour of it. Something, however, must soon be done; for French agriculture has already declined to an alarming extent under the system, which will break down of its own weight if not altered in time.—*Mark-lane Express.*

**POTATOES.**—Harvest and store immediately in a dark, cool and well-ventilated cellar. A liberal amount of earth collected with them is rather beneficial than otherwise, in their preservation.

## Editorial Notices, &c.

We have received since the date of our last number, the current numbers of the *QUARTERLY*, *WESTMINSTER*, and *NORTH BRITISH REVIEWS*. Their contents are as follows:—

**QUARTERLY**:—The Resources and Future of Austria; Natural History of the Bible; Glacial Theories; Our Colonial System; Washington Irving; Modern Spiritualism; Sacred Trees and Flowers; The Nile.

**WESTMINSTER**:—The Growth of Christianity The Rival Races; Utilitarianism; Gamester and Gaming Houses; Marriages of Consanguinity; Saint Simon and his Disciples; The Naturalist on the River Amazon; Blanc's History of the French Revolution; Poland; Lancashire Contemporary Literature.

**NORTH BRITISH**:—Roger Collard—Philosopher and Politician; Wilson's Prehistoric Man Thomas de Quincey; Henry St. John and the Reign of Queen Anne; The Education and Management of the Imbecile; The West Highlands of Scotland; Pretensions of Spiritualism Mormonism—Past and Present; The Cott Famine and Lancashire Districts; The Nation Defences.

It will be seen from the above that the Standard Reviews contain articles from the pen of the most gifted writers, on varied and interesting subjects, with which no person in the present day having the least pretensions to intelligence can afford to remain unacquainted. The current numbers of these Reviews commence new volumes, so that the present is a convenient time for new subscribers to commence. *BLACKWOOD'S MAGAZINE* for September, also published by *LEONARD SCOTT, & CO.* *NEW YORK*, contains among its sound excellent articles, one on the Battle of Gettysburg and the Campaign in Pennsylvania, from the pen of a British Officer, that will be read with great interest on this side of the Atlantic.

**THE BRITISH AMERICAN MAGAZINE**, Nos. 5 & 6:—*Toronto: Rollo & Adam.*

The two last numbers of this excellent periodical contain the usual amount of interesting and instructive articles from Canadian writers. Number 6 completes the first volume, a handsome book of near 700 pages. It combines both instruction and amusement of a liter-

and rational kind, and it ought to be a welcome visitor throughout the length and breadth of the British Provinces, in which the acquisition of useful knowledge and the culture of a refined taste are deemed objects worth acquiring.

OUR PRESENT NUMBER.—Owing to the Editors of this Journal having been unavoidably much occupied with other pressing duties, the publication of the present number has been delayed past the usual time of appearance. The next number will contain the corrected Prize List of the Provincial Exhibition.

STOCK SALE.—We beg leave to direct attention to the Sale of valuable stock advertized in another column, by Mr. Stone.

**TORONTO MARKET PRICES.**

TORONTO, OCTOBER 12, 1863.

Fall Wheat, per bushel.....	\$0 85 to \$0 95
Spring Wheat, ".....	75 " 83
Barley, ".....	82 " 86
Peas, ".....	55 " 00
Oats, ".....	45 " 46
Rye, ".....	56 " 60
Beef,.....	3 00 " 4 50
Potatos, per bushel.....	35 " 40
Apples.....	1 25 " 2 00
Fresh Butter, per lb.,.....	18 " 20
Eggs, per doz.....	11 " 13
Chickens,.....	30 " 40
Calves, each,.....	4 00 " 6 00
Sheep, each.....	3 00 " 4 00
Lambs, each.....	2 00 " 3 00
Hay, per ton,.....	8 00 " 10 00
Straw, ".....	5 00 " 6 00
Hides, per 100 lbs.....	4 50 " 5 00
Calfskins, per lb.....	8 " 9
Sheep Skins.....	35 " 40
Lamb skins, each.....	70 " 80
Wool, per lb.....	38 " 40
Plaster of Paris, per barrel..	95 " 1 00
Salt, per bbl.....	1 85 " 1 87

**MONEY TO LEND,**

In sums of \$250, \$500, and upwards, in **FARMING PROPERTY.**

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MR. WEBBER,

Upper Canada Land Registry Office, corner Change Alley and Colborne St., Toronto, C.W.

Wanted some Good Farms, and Wild Lands, in well settled districts. 3t.

**THOROUGH-BRED AYRSHIRES FOR SALE,**

Apply to

R. L. DENISON,  
Dover Court.

Aug. 20th, 1863.

**MORETON LODGE**  
NEAR GUELPH, C.W.

Important Sale of Imported and Pure-bred **Cotswold, Southdown, and Leicester Sheep, Berkshire Pigs, &c.**

MR. W. S. G. KNOWLES HAS RECEIVED instructions to sell by Auction on Wednesday, the 21st day of October, next, at Moreton Lodge, belonging to Frederick W. Stone, Sixty Imported and Pure-bred Cotswold Rams. Thirty Cotswold Ewes Fifteen Pure-bred Southdown Rams. Three Pure-bred Leicester Rams, and a few choice Berkshire and Small White Breed of Pigs.

Sale to commence at one o'clock. Terms: under \$25 Cash; over \$25, three months credit, on approved endorsed notes.

Guelph, C.W., 3rd October, 1863.

**Coe's Super-Phosphate of Lime FOR WHEAT.**

THE following testimony is from an extensive Wheat-grower, and the best of authority: } Near Frederick, Frederick Co., Md., January 2, 1863.

DEAR SIR,—I have used Coe's Super-phosphate of Lime for several years past with uniform success, and last season it proved particularly satisfactory. Ten acres of land which was of more than an ordinary poor quality was treated in the following manner:—On one half the piece I used Coe's Super-phosphate, at the rate of 200 lbs. to the acre; on the other half Peruvian Guano at the same rate, and sowed with wheat. On the five acres on which I used Phosphate, I had at least twenty-five per cent. more wheat, and the berry was much larger and of nicer quality than where the Guano was used, and also the straw was much the heaviest where the Phosphate was used. I have used Coe's Phosphate in different ways, and on different crops, and the results have been highly satisfactory.

Very truly yours,  
JOHN H. DETRICK.

**THOROUGH-BRED SHORT HORN FOR SALE.**

MORETON DUKE, got by Mr. Stone's Bull 3rd Grand Duke, 229½, calved 9th June, 1860.

William of Oxford, got by Mr. Stone's Bull 12th Duke of Oxford, calved 19th November 1859.

David, got by Sir Charles, a son of 3rd Grand Duke, calved 1st March 1861.

Marquis of Oxford, got by William of Oxford, calved 20th March 1863.

Warwick, got by Moreton Duke, calved 26th March 1863.

Terms very reasonable.

W. WILLCOCKS BALDWIN,  
Larchmere, Oak Ridge.

April, 1863.

if.



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WAREHOUSE.

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## AGRICULTURAL HALL,

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COR. OF YONGE AND QUEEN STREETS,

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### FIELD AND GARDEN SEEDS.

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TORONTO, Dec. 16th, 1862.

### Agricultural Implements.

- One Horse Ploughs ..... \$5 00 to \$ 7 00 each.
- Two Horse Ploughs... Nos. 1, 2 & 3 16 50 "
- " " iron beam..... 12 00 "
- Patterson & Brothers, Manufacturers, Belleville.
- " " wood Nos. 4 & 5 0 00 "
- " " " No. 6..... 16 50 "
- One Horse Hoes or Cultivators.... 8 00 "
- Straw Cutters, for horse or hand power..... 30 00 "

Draining Tools of Superior Quality, Spades, Shovels, Manure Forks, Potato Forks, Hay Forks, Cradles, Scythes, Snaiths, Iron Rakes, Hoes, Hand and Horse Hay Rakes, &c., &c., &c.

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