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THE
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AND

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No. 11.

ECONOMY OF FODDER.

The hay crop throughout most parts of Canada, and a great portion of the Western States, has proved this year very much below an average. Every farmer should therefore be careful of his fodder, and economise its use. Much cattle food is annually wasted either for want of knowing how to mix and use it, or, as is too commonly the case, from sheer inattention and carelessness. How frequently is straw seen rotting in unsightly heaps, instead of being daily employed in comfortably bedding cattle, and either chopped or boiled with other substances for food. Our farmers this winter, must pay strict attention to the economical mixing and preparing their turnips, mangels, carrots, flax, &c., as substitutes in a great measure for hay, or their flocks and herds will cut a sorry figure indeed before the advent of spring.

It is fortunate that the straw of most of the cereals has been abundant, and in consequence of the favorable weather in harvest, it was secured generally in good condition. It will hereafter be wanted not only for bedding, but in a more than usual degree for provender. Farm horses may be fed with straw cut fine and immersed in boiling linseed meal, and water till all is absorbed, when it should be well mixed up. The straw thus becomes a good medium for conveying the linseed meal, the most fattening of all substances, into the stomach of the animal, and the effect produced is of the greatest advantage. Straw may also be advantageously mixed with other ingredients, such as bran, turnips, carrots, &c., and either boiled or steamed. The compound will prove particularly adapted as food for cattle. The boiling of these productions of the farm with linseed meal, so as to make a kind of pudding or thick jelly, has for many years been advantageously used in Britain in the fattening of animals. It is found by experience that cattle relish and do better upon a cooked mixture of food, than the same quantities of the various materials given singly.

But in order thus to prepare and economise straw as food for stock, the farmer must be provided with an efficient chaff cutter; an implement of essential importance in the present day and under existing circumstances. These machines may now be readily obtained of most of our implement makers in all the older settled districts of the Province; and they are usually exhibited at most of the

agricultural shows, of different forms, prices, &c. By means of this implement and the exercise of care and judgment in the selection and economy of material, cattle feed may be improved and increased to an extraordinary degree. It thus becomes more nutritious and fattening, and answers many other purposes connected with the management of live stock, and the judicious management of a farm.

Another most important means of economising fodder; one which every farmer can more or less adopt, consists in keeping animals clean, dry, and warm during the trying season of winter. A sufficient amount of good food and water, regularly given, although of indispensable importance, does not embrace the whole of the proper winter-management of stock. In this climate shelter and warmth are no less indispensable, if sound thrifty animals are desired.—Hence the necessity of suitable buildings to meet these conditions. It is a clearly ascertained physiological fact, which modern chemistry has established, that a large portion of the food of animals exposed to cold and draughts, is consumed in generating and sustaining the heat of their bodies, instead of being converted into fat and muscle, as would be the case in a warmer and less exposed situation. A warm stable or byre is therefore a great economiser of fodder. Animals thus cared for will thrive better on less food than will others under less favorable circumstances with a more ample supply. This fact demands the best attention of the farmer at all times, especially when, as at present, the hay crop is so far below the average.

It is important, however, to observe, particularly in reference to sheep, that buildings intended for wintering stock should not be made too close and warm; a mistake, it is true, we are not in danger of committing in this country. All our domesticated animals require a constant amount of pure air, and therefore proper attention should be paid in the construction of farm buildings to the vital question of ventilation. To combine the various conditions necessary in the healthy management of stock, requires constant care and a sound judgment. In this country sheep must be put into yards having sheds, during the cold and storms of winter. But great care is needed in seeing that they are not kept too close; they require exercise and change, with plenty of fresh air, otherwise they will decline in condition, and become the victims of some contagious disease. Of all the physical conditions in which this animal can be placed, those most unfavorable to its health and growth, are dampness and exposure to cold stormy wind. Proper attention to matters of this kind, which come more or less within the ability of every farmer to carry out, will, in seasons like the present, make a scanty supply of fodder do more service in promoting the growth and sustaining the health of the domesticated animals, than a more abundant supply without such attention.

ON THE FIRST PRINCIPLES OF AGRICULTURE.

As every trade and profession must now-a-days have its axioms, postulates, or first principles, in order to give it a scientific dress among other crafts, it is highly reasonable that the art of Agriculture, which is now almost completely reduced to a science, should also be permitted to assume its first principles. Without the knowledge of first principles, nothing can be expected from any of the practitioners of Agriculture worthy of attention—their practice being merely a copy from that already established, if not some gross deviation, perhaps, from the beaten track, by means of some erroneous idea of their own conceiving. Men acquainted with first principles will never deviate from them, while they find

them correct; perhaps they may try some experiment consistent with them, and succeed. This, then, is the foundation from which we are to expect a rational system of Agriculture, adapted to all the varieties of soil, climate, and seasons, with which it must ever be connected.

It is true that by means of great attention to, and a careful and judicious imitation of good Farmers, a man of mean talents is sometimes known to make a tolerable figure in this line. He may raise good crops; and good crops are no bad criterion of good farming. Indeed, a man, otherwise a blockhead (at least one who has no notion of first principles,) often excels those who adhere to them with scrupulous exactness; but this must be only where the knowing man wants the talent of strict application. This talent is an essential requisite for a Farmer: indeed, it is indispensable in every occupation where success is desired.

The general principles upon which the success of Agriculture depends are—

1. Without draining wet land, no improvement.
2. Unless land thus drained is properly cleaned, the object of draining is frustrated, and that in proportion as this operation is executed.
3. Manures will always fail in producing the desired effect, in proportion as draining and cleaning are neglected.
3. Early sowing always produces shorter and stiffer straw than late sowing, and that in exact proportion to the times, when not affected by extraneous circumstances.
5. The various species of seed-corn are adapted to various soils, situations, seasons, and other circumstances.

6. Picking and propagating the best heads of the most approved kinds of grain and seeds is the surest method of preserving them undegenerate.

Draining.—This article has been amply discussed by able hands, and Elkington's and Smith of Deanston's systems of draining are universally known. Almost every field has its own peculiar circumstances; but as it is not our design in this place to enter into the minutiae of draining, but to introduce it as a first principle in farming, we shall say no more about it.

Without draining, no improvement.—Without it no other operation can be effectual to the end proposed. When land is gorged with water, it cannot be cleaned. No labor is sufficient to do it, except in a very uncommon drought—in some soils, not even then; and when land is not clean, it is impossible to suppose that dung, lime, or any other kind of manure, can have its full effect. Dung will promote the natural grasses more than any kind of grain which may be sown; and these, although the land is sown with artificial grass seed, will still thrive, and render the ground completely fit for a fallow crop, or, if on stiff clays, a summer fallow immediately after dirty lea oats.

Cleaning.—This department requires the Farmer's constant attention, and by this alone can be rendered effectual. Early ploughing is of much importance and it is impossible to be too early at summer fallows, or in preparing the land for turnips or potatoes, when spring sowing is over. As we at present speak chiefly of land in the second stage of improvement, it must not be considered so clean, as in future it may be expected. We shall suppose the land of a free nature, but extremely dirty by means of its late moist state previous to draining. Every Farmer may plough to his own mind, according to the nature of the soil, and the grass he has to destroy; but, in general, light ploughing is sufficient to kill grass, which generally runs near the surface—and then, before the manure is applied, a strong furrow is of much use, to mix new earth with the dung. At the same time some soils will not admit of a strong furrow, unless in the spring, before the moisture is exhausted. In such situations, harrowing, rolling, and gathering grass roots frequently after every ploughing, is essentially necessary; but it is not our design to teach either ploughing or harrowing.

Manures.—Neither is it our design to treat of the nature and properties of manures, and how they operate upon land, so as to produce better crops; whether by communicating to the soil the vegetable food which they contain—whether by enabling it to attract nourishment from the atmosphere—or by enlarging the vegetable pasture which it contains—or by dissolving that which the soil already contains, so as to prepare it for entering the roots of plants.—These are philosophical inquiries, not essentially connected with the present business. Upon this subject there are various theories—some of which are extremely rational, and others extremely absurd.

Early sowing produces less straw than late sowing, and that in exact proportion to the times (cæteris paribus).—The knowledge of this principle, which was not discovered, at least not attended to, till the close of the last century, is of much importance to the Farmer. Before it was known and practised, the hazard of sowing land in a very high state of cultivation was very great. Oats or barley sown in such condition at the usual period of seed-time as formerly—viz., oats late in March, and barley about the term of Whitsunday—would have been often entirely ruined by being too strong. English barley (commonly from Lincolnshire) and Dutch, and many other, early kinds of oats, were adopted without changing the time of sowing; and as these have a tendency to produce shorter straw, they were found of much advantage in securing a full crop without lodging. But it is found that any of our oats sown early produce a shorter and stiffer straw, which has the same effect. Early oats, however, are still much in vogue. The Lincoln barley is almost out of repute: it is well known to some Farmers that the common Scotch barley is the best substitute for it—as, when sown early, its straw becomes shorter, much stiffer, and less apt to lodge: Potato oats are a comparatively new species, and are said to be natives of South America. It appears they were first imported into some of our midland counties of Scotland, in a quantity extremely small; and that they obtained that name from the circumstances of their arriving in a package of *potatoes*. This is a valuable kind of oats in point of meal, yielding two or three pecks per boll more than the Angus, which, in every other respect, we reckon our best oats.—They appear to be again losing ground in the estimation of some people: they are more apt than any other kind to keep the soil, like wild oats, and thereby to annoy the succeeding crops. It seems to be apprehended that, were they to be frequently shaken and ploughed in dry, that they would be as great a weed too. They seem to have another disadvantage, which, in the present circumstances of our labor, is not a small one. They ripen along with the wheat; and that article being now more than ever the chief object of the Farmer, is in danger of occasioning very serious consequences as to the timeous cutting of that crop.—Potato oats are also extremely apt to shake, and seldom fail to drop in shearing. All kinds of early oats are fit only for fine land, or land in a high state of cultivation; but upon inferior land they are the best, when a bad season has thrown the seed time too far back for common ones. Blainslie oats are our native early and have a finer meal as well as finer straw; but they seem mostly out of favor at present. These several varieties of oats and barley afford the Farmer great advantages in securing his grass-seeds, as well as his corn crop, in certain seasons and situations.

As to spring wheat, the dwarf kind, which is known to produce short straw, and is also advantageous in the above circumstances; and as it has a natural tendency to produce short straw, and is also advantageous in the above circumstances; and as it has a natural tendency to produce short straw, it ought certainly upon rich soils to be preferred in winter.

Picking out the best heads of the most approved grain, is the best method of preserving the species from degenerating.—It must be evident to every one that

grain has a constant tendency to degenerate. But whether its species suffers or not, it must, by a thousand circumstances, be so blended and mixed with other kinds, and even with different grain, that it requires frequently to be renewed by picking and propagating the best heads. This is found by experience to be the surest method of preserving the grain; and so different is the produce of the earliest and most vigorous ears from that of the poor diseased ones, that it has generally obtained some name to distinguish it from that even of its kind. A Farmer in East Lothian some years ago found, in a cold, bleak situation (Coldingham Muir) a very fine looking vigorous head of wheat—which, being ripe at a period earlier than might have been expected from its situation, he brought with him; and having repeatedly sown its produce, at last furnished seed to a considerable part of that county, and even to farms in many a distant county. It is an excellent kind of wheat—being considerably earlier and more prolific than any kind we are yet acquainted with. It is known as *Hunter's Wheat*.

These hints may perhaps be of some use to Farmers who are only about the beginning of their agricultural pursuits. They may cause a little reflection, and occasion rational experiments, which may confirm, in their mind, the utility of such first principles upon which they were made.—*Scottish Farmer*.

SHEEP—ON THE BREEDING OF LEICESTER TUPS.

When treating of short-horned cattle, the attention of breeders was directed to the importance of carrying on as a separate trade that of breeding and rearing young bulls. The same arguments there urged apply with equal force when considering the propriety of establishing a farm for the sole object of breeding Leicester tups. In commencing an undertaking of this kind, the primary object is the proper selection of the breeding stock. The ewes, besides being pure bred, must possess all the requisite points of a first-rate Leicester; while the tups should be most carefully and judiciously selected from the best stocks. Some breeders prefer large sheep and others small, or sheep which stand high or low on their legs; but a middling-sized animal is to be preferred, extremes being avoided. Such a tup should have a fine head, rather wide from eyes to nose, wide and expanded nostrils, full, bold, quick eyes, thin pricked ears, head altogether prominent and well covered; full neck, sloping gently back to the shoulders and firmly set on; the shoulders broad, full and compact; the breast should also be broad, full, and prominent, joining full up to the neck; the forearm full of muscle to the knee, and a fine flat clean bone and leg below the knee; ribs round and well arched to the back, and full of mutton up to the shoulder; the chine, from the shoulders backwards, strong; the back straight and wide; loins wide; hind quarters long, wide, and well formed; tail well set on, nearly in line with the top of the shoulder; belly nearly straight, shewing little offal; ham or leg full and well filled to the hind hough, both inside and out; standing rather wide on the hind legs, so as to correspond with the fore. In fact, the whole carcase should be so compact as to look like a cylinder with four pins stuck into it, particularly from the fore part of the shoulders backwards; and if the head and neck are all right, he will have a bold and graceful appearance. The wool should be a proper length, fine, bright, and soft, rather close set, with a thin pelt. If a tup possesses all the foregoing requisite, he will feel and handle mellow, and the fingers in handling should sink into the back from shoulders to tail, which is a true indication of the purity of the blood.

These are the qualifications and points which a Leicester flock should have to be fit for breeding. Therefore, those beginning the trade must either have or select such as here described, and without defects; as it too frequently happens that wrong points fall out in sheep which cannot be accounted for. To procure a breeding stock of this kind may be expensive; but it is of no use beginning the trade without, as, unless able to compete with the most eminent breeders of the day, top prices cannot be expected, and the trade, unless at these prices, will not be profitable. It is possible, however, for a

first-rate breeding stock to be procured at a reasonable cost by a man who is a good judge; for by taking time and trouble in the selection, and by setting about it quietly, say in July, he would have three months before tupping time to accomplish his object at a reasonable cost. It is actually necessary for tup breeders to select their flocks with the utmost discrimination and judgment, as no trade in the world requires more care and attention; for if the points in the tups are in any way deficient, it will soon tell on the produce, or if the blood is not pure, the alloy will be quickly developed. The great point of having a tup-breeding flock pure, and with high-toned blood, is that, although at shewing time the shearing tups are not equal in point of symmetry and handling, the worst looking sheep, from being equally well bred, will get as good stock as the most symmetrical. The writer once heard an eminent breeder remark, in reference to a short-horned bull, that if he was as crooked as the letter S he would breed from him, knowing his blood to be pure.

On a tup-breeding farm, the whole rent and profit of the farmer should be drawn from his sheep; but without first-rate management, and proper attention on the part of both master and shepherd, it will not answer. The size of the farm—the quality of the land—the number of breeding ewes to be kept—the probable produce and prices which such breeding stock will realise—the rent of the farm, and probable profit to be derived from a given number of ewes—shewing as near as possible the expenditure and income: these are all necessary calculations to make.

A farm of about 200 acres of good substantial turnip and grass land, at say £2 per acre, would be of convenient size for our purpose. It should be a good, deep, dry, sharp, loam, with an open bottom, and, if possible, a southern exposure—the land gently sloping, and a good climate. On such land the farmer would not be dependent on his grain crops. Supposing it to be farmed under the ten-shift course of husbandry, there should be ten fields of 20 acres each. Under this course of management, the greater part of the farm would be in grass, or 140 acres, which would be 20 acres new grass for the tup hogs, and 120 acres, of from one to six year old grass, for the ewes and gimmers. The fallow break of 20 acres would be, say 18 acres in turnips, 1 in potatoes, and 1 of tares for horses. Calculating the ewe stock at 140, they should produce 180 lambs, allowing 40 to have twins. The stock to be wintered would therefore be 320; and as the turnips on such good land, and under such management, should be a full crop, twelve acres will supply the hogs, five the ewes, and one for three cows, which should be the whole cattle stock on the farm, with one pair of horses, and an odd one. One ploughman and two lads could do all the work, except what is regularly done by women and daily workers. The expense of working the farm would consequently not be great; and if the land be well laid down with perennial rye-grass, clovers, and other seeds, it will be fully sufficient to keep the stock. Should there be any surplus grass, it can be eaten by bought-in stock when required.

Allowing twenty for deaths and other casualties, eighty shearing tups and eighty cast ewes and gimmers should be annually sold. The produce of such a flock should stand about thus:—

INCOME.

80 Shearing tups, at £5 each.....	£400	0	0
80 Cast ewes and gimmers, at £2.....	160	0	0
300 Fleeces of wool, at 6s.....	90	0	0
	<u>£650</u>	<u>0</u>	<u>0</u>

EXPENDITURE.

Rent.....	£400	0	0
Purchase of high bred tups yearly.....	£20	0	0
Sell one bought the previous year.....	8	0	0
	<u>12</u>	<u>0</u>	<u>0</u>
Shepherd's wages, besides his allowance of corn, sheep, and cow.....	10	0	0
Nets and other incidental expenses attending the sheep, say.....	28	0	0
	<u>450</u>	<u>0</u>	<u>0</u>
Profit on sheep, after paying rent, &c.....	£200	0	0

The next consideration is, will the grain raised on the farm, after keeping house, servants, horses, seed, and tup hogs, pay the other expenses? Allowing twenty acres to be under oats, and twenty under barley, the proceeds will approximate to the following calculation :

20 acres of oats, at say 7 qrs. per acre.....	Qrs.	140
Say for tup hogs.....	Qrs.	30
“ Seed.....		12
“ House and servants.....		30
“ Horses, besides light grain.....		18
		— 90
To sell.....		50 qrs.
Barley, 20 acres, say 6 qrs. per acre.....	Qrs.	120
Seed, say.....	Qrs.	10
Servants, &c.....		10
		— 20
To sell.....		100
50 qrs. oats, at 18s.....	£45	0 0
100 qrs. barley, at 21s.....	105	0 0
	£150	0 0

PROBABLE EXPENSES ATTENDING THE TILLAGE LAND.

Ploughman, lad, and boy, say.....	£20	0 0
Servant girl.....	6	0 0
Cutting crop, and other expenses attending it, say....	20	0 0
Daily workers, &c.....	10	0 0
Tear and wear of horses, implements, tradesmen's ac- counts, &c., say.....	20	0 0
Seeds, say.....	10	0 0
Public burdens, insurance of stock, and other incidental expenses, say.....	34	0 0
Interest of capital.....	30	0 0
	£150	0 0

In addition to the above, the ploughman and shepherd must each have a cow but there should be sufficient grass in summer, and abundance of straw in winter, to keep them.

The above calculation, if correct, shews that the grain crop will pay the expenses of the tillage land, and also, that the rent and profit are derived solely from the sheep; and in these times £200 on a 200 acre farm should satisfy the farmer and keep him respectably—as he would have from his farm, milk, meal, potatoes, pork, poultry, and he could also feed his own lamb, mutton, and beef, and have, besides, the produce of his garden.

Some farmers may think this a trifling concern, and not enough to occupy their time; but if such a farm produces and brings up annually 80 high bred shearing tups in fit condition for sale, they should be content. Generally speaking, it would be as well if farmers were to give more attention to one particular branch of farming, and manage it with skill and attention, so as to make it profitable, in place of having too much in hand.

As to the general management of such a farm, the new grass is set apart for the tup hogs. Some breeders may object to this, and say it should be kept for the ewes with twin lambs, and so probably it should; but as the tup hogs must get extra feeding, the ewes must be provided for in another way. Say that forty ewes having twin lambs were to have two fields of two and three year old grass saved for them all the winter till lambing time, and not eaten too bare; and as no sheep or other stock would be on

these fields all winter, they would be in a very fresh state to receive the ewes with twin lambs in March, and the foggage would keep the lambs warm, and with a few cut Swedes they should do well. The other 100 acres of grass will be sufficient for the ewes with single lambs and ewe hoggs till May, when a heavier stock could be added with the ewes and twin lambs. As there should be plenty of grass by the 1st of May, the field intended for oats the following year, being six year old grass, should be closed, and a stolen crop of hay taken from it, which would make fine sheep hay for the following winter, and the foggage would answer well for the tup lands, which, after getting a run over the clover stubbles, should be put to turnips by the end of September, and a few old sheep put among them to learn them to eat this food. Probably it would be better to keep them for the first month, or during October, in the foggage or other field saved for them; for this is a very important month for the tup hoggs to be well fed, to prepare them for colder weather. As the land is presumed to be dry, they may be netted on the turnips on a well sheltered part of the field; but in case of very wet weather, they should be removed to a grass field as near as possible to the turnips; or a temporary shed should be erected sufficiently large to hold the tup hoggs under cover. As there will be plenty of straw on the farm, from there being so few cattle and horses, they could be laded daily, so that they would always be dry and comfortable at night, or in wet weather. After 1st of January they should get yellow turnips cut, in boxes, and always to have a sufficient quantity stored in case of frost. After the 1st of February they should get cut Swedes, with 1 lb. of oats to each hogg per day. Throughout the winter they should get a small quantity of hay in racks in the shed. The sheep may be continued on the turnips, hay, and oats till 1st April, when they may be removed to the new grass; but the temporary shed and oats should be continued till 1st May, when they would be ready for shearing. The shed would be of great benefit to them in cold nights after being shorn.

The ewe hoggs should be put to cut turnips in October or November, and will require no extra keep. After casting their teeth, the ewes should get turnips six weeks prior to lambing, and cut Swedes in boxes should be provided during parturition, until the middle of April, or later, if they can be spared. By such management, and by keeping the shearing tups on the new grass during the summer, they will be in excellent condition for shewing in August and September.—*Dickson on the breeding of Live Stock.*

Agricultural Intelligence.

NEW YORK STATE FAIR.

(From our Own Correspondent.)

ALBANY, N. Y., October 5th, 1859.

This, the nineteenth annual exhibition of the New York State Agricultural Society, is perhaps the most successful which the Society has ever held. Taking place at the capital of the State, the beautiful old city of Albany, where there is a large local population, with plenty of hotel accommodation, abundant traveling facilities in every direction, the city of New York itself at no very great distance, and delightful weather for visiting, everything has been, so far, favorable to a successful meeting, and the result has fully borne out the expectations of those interested.

The show ground lies to the eastward, about two miles from the centre of the city. The entrances to the grounds face the South-east, the business offices being placed along the front. Inside on the right is the Floral Hall, devoted to the display of fruit and flowers and the fine arts. It is about 130 feet in length, running North-east and South-west. To the North-west of this, running parallel to it, and at suitable distances from each other, are the domestic Hall, the President's office, a refreshment shed, and six long covered sheds for sheep and pigs. To the right or North-east of all this is the horse ring, about $\frac{3}{4}$ of a mile in circumference, enclosed by a slight board fence, with seats erected for the spectators to witness the action of the horses, trotting round the ring—this being one of the chief attractions. Going back to the entrance, and looking to the back of the ground, running in the same direction as the buildings already described, and parallel with each other, we have on the left two mechanics'

halls, for the display of machinery and manufactures of various kinds, each nearly or about 200 feet in length and 50 in breadth, the dairy hall, a shed for carriages, and the vegetable hall for the exhibition of grain, roots, &c. Further to the left is the poultry shed. North-west of these buildings, and running north-east, are seven long sheds for cattle, parallel with each other, each about 200 feet in length, and capable of accommodating about 40 head of cattle. In addition to all this accommodation for stock, all around three sides of the enclosure there are stalls or boxes for horses and bulls, to the number of some three hundred, or thereabouts. The implements are displayed between the mechanics' halls and the front and south-east side of the grounds. All the buildings described are slight temporary erections, of mere rough boards and scantling, which will, no doubt, answer very well with such fine weather as we have at present, but which, in case of a wet and tempestuous time, would expose the property exhibited to great damage. We have long come to the conclusion in Canada that such buildings are not good enough, or safe enough, for our Provincial Exhibitions, where property is exposed to all the risks of the weather for several days. The general plan of the grounds and buildings here, however, is excellent, affording plenty of room and convenient divisions for the proper arrangement and classification of animals and articles on exhibition. The ground itself is beautifully situated, and is in excellent condition for the purpose. It rises with a gentle ascent from the front or South-east towards the back or North-west; the view in the back ground being terminated by a range of hills, crowned here and there with trees. Looking in the other direction, the view beyond the front of the grounds, across the river, is charming, consisting of undulating fields, hills and slopes, adorned by groves and clumps of wood, now brilliant with all the gorgeous and changing tints of autumn.

The exhibition is extensive and excellent. The following is an abstract of the entries:—Cattle, 362; Horses and Mules, 517; Sheep, Swine and Poultry, 603; Agricultural Implements and Machinery, 495; Grain, Seeds, Vegetables, Sugar and Honey, 360; Domestic Manufactures, 364; Miscellaneous, 601; Fruits and Flowers, 253.—Amounting in all to 3,555.

It is estimated that there were about forty thousand people on the ground to-day. The total receipts were over \$5,000. The total receipts up to this (Wednesday) evening, are \$7,800. They will probably be greater to-morrow. Amongst the visitors from Canada I noticed the Hon. David Christie, Mr. Denison, Treasurer, and Mr. Thomson, Secretary, of the Agricultural Association of Upper Canada. Mr. Snell of Chingacousy, and Mr. Jeffry, of Vaughn, are here as exhibitors. Mr. Snell has sold a Leicester ram for \$300.

THURSDAY, October 6, 1859.

I now propose to give a brief general notice of the several departments of this great "Fair," as this and similar exhibitions are somewhat incorrectly termed.

In the class of horses there was a very large display, the entries as I stated yesterday being over 500, and the several committees of judges have been occupied nearly the whole of yesterday and to-day in examining the merits of the animals in the various subdivisions. The ring in which they show their paces, some three-eighths of a mile in circuit, is constantly surrounded by a closely packed hedge of interested spectators, from three to ten in depth. I do not admire the system of showing horses at an agricultural exhibition in trotting sulkies and buggies, but here it is carried so far as to be almost universal, even with stallions, breeding mares and two year olds, and appears to suit the taste of the people better than any other mode. As to the quality of the horses exhibited, one does not see here the large, showy, slow-going draught and coach horses, which predominate at our own exhibitions. The moderate sized, active, compactly built and spirited Morgans and Black Hawks appear to be the favorites, and are here in great force. Some of the stallions of these breeds are of beautiful symmetry and action, and are held at high prices. A greater sprinkling than we have of these breeds of horses would be very useful in Canada. Amongst the "horses of all work," I noticed "Toronto Chief," bred in Canada, and sold by Mr. R. A. Goodenough, of Toronto, last spring for \$6,000, and now the property of Mr. L. R. Bowne, of Flushing. The Chief was looking in good condition, and was the centre of an admiring crowd. It would be impossible for me to specify particular animals.—Although there are a great many very fine specimens, there are on the other hand, a great many others very inferior.

In cattle the exhibition is beyond all praise, and quite exceeds in the beauty and value of the animals any exhibition that we have yet had in Canada. In this remark I refer more particularly to Durhams and Devons, for in Ayrshires I am of opinion that our Kingston Exhibition was better than this, and of Galloways they here have none. There are a few fine Herefords, of which breed we have in Canada no good specimens, and a few Alderneys, of which we have none. Samuel Thorne, of Thorndale, Washington Hollow, Dutchess county, N. Y., who is the largest exhibitor of Durhams on the ground, is believed by those well informed upon the subject, to be the possessor of probably the largest and best herd of high bred Durhams in the world. He is a young man with ample means, and he has entered into the business of importing and breeding cattle, sheep and swine on the most extensive scale, boldly picking up the choice lots at the great sales in England, and carrying them off over the bids of some of the wealthiest English breeders, anxious to secure them. Amongst the bulls which he exhibits here are "Grand Turk" (12969) which takes the 1st prize here as an imported bull, over three years old; "Second Duke of Thorndale," 1st prize as a yearling, and stated by many experienced judges here to be the finest animal they have ever seen; and "fourth Duke of Thorndale," under 1 year old. Amongst the cows and heifers are "Lalla Rookh," of European celebrity as a prize taker at English exhibitions, and who has also carried away the palm at every competition on this continent; her cost in England was \$3,000; she is a perfect model of a Durham cow, and takes the 1st prize here as an imported cow. "Mistress Gwynn," 1st prize as a cow, 3 years old and upwards, bred in the country; "Fornarina," 2d prize do; "Favorite," 1st prize, 2 years old; "Gertrude," 2d do; "Lady of Oxford" and "Princess of Oxford," 1st and 2d prizes as yearlings. I cannot describe the merits of these animals in the technical language used by breeders, but they are superb, and should be seen to be appreciated. There are many other good animals on the ground in the hands of other breeders, as will be shown by the prize list, but I have not time to particularize. Amongst the exhibitors of foreign cattle, that is, cattle owned out of the State, is Mr. W. R. Duncan, of Kentucky, who has fifteen or twenty Durhams.—They are good servicable cattle, but somewhat old in style, and not equal in beauty to those from the herds of the chief New York breeders. In the class of Devons, Mr. C. S. Wainwright of the "Meadows," near Rhinebeck, Dutchess county, is, I believe the largest exhibitor, and I believe he is also the possessor of the largest herd of this breed of cattle in the State. Nearly all of the animals he exhibits have all the points of the Devon in perfection. His Bull "Omer Pasha," which obtains the first prize here as an imported bull, was awarded the first prize as a yearling at the show of the Royal Agricultural Society of England, at Carlisle, in 1855. Still, Mr. Wainwright, although he takes the largest number of prizes in Devons, has been obliged to yield the first prize, whether rightly or not I cannot say, to other competitors, in some of the subdivisions of the class. While speaking of Devons, I will observe that scarcely anything can be more beautiful, in the way of an exhibition of cattle, than the large numbers of yokes of Devon oxen on exhibition here. They are all so much alike in their general appearance, color and symmetry, and their long tapering graceful horns, that when a large number of them are displayed together, as they are here, the effect is very striking and agreeable.

In sheep, the exhibition is also large, there being over 600 entries of sheep, swine and poultry. The largest number of sheep on exhibition are Merinos and Saxons, which, although they have an indisputably fine fleece, have no great attraction for the Canadian breeder. There are a good many Southdowns on exhibition. Mr. Thorne has a very fine lot. They are bred from recent importations, either from the flock of Jonas Webb, Babraham, or from sheep that were prize winners at the show of the Royal Agricultural Society of England. The long-wool sheep exhibited by breeders in the State are not, generally speaking, very good. Mr. Snell of Chingacousy, has the best lot on the ground, and he has sold several of them at very good prices.

The show of pigs is not very large, and nothing very noticeable in it, except some particularly beautiful Essex pigs, shown by Mr. Thorne.

In poultry there is nothing deserving of very particular remark. I think the display is scarcely equal to that at some of our own Provincial Exhibitions.

The attendance to-day has been immense. Every part of the twenty-acre enclosure, and of every building in it, has been crowded to such an excess that it has been difficult to move about. The receipts to-day have been over \$7,000, making, I believe, nearly \$16,000 to the present time, (Thursday evening.)

FRIDAY, October 7th, 1859.

The show of Agricultural Products here is not extensive; in fact you would scarcely see so meagre a display at one of our county or township shows in Canada. There are only two or three samples of wheat, and these of indifferent quality, two or three of oats, &c. I notice three lots of Swede turnips, of which only one lot is more than of very ordinary quality; and three of Mangel-wurzel, in all of which there was only one really good root. Even in Indian corn, which we should expect to find very good, the display was not equal to that at some of our shows in Canada, the ears being small, and the grains on the same ear of different colors and varieties. In potatoes there was a very fair display. Again, in garden vegetables, there was only a very moderate show, the carrots, parsnips, beets and some other varieties were inferior, and would scarcely be shown at an exhibition in Canada; the onions, celery cauliflower, cabbage, were very fair in quality. Amongst the articles attracting particular notice in the "Vegetable Hall" were some specimens of the Chinese potato, (*Dioscorea batatas*) the roots being 40 inches in length, and weighing 8 to 12 pounds each. The exhibitor, Jacob G. Sickles, of Stuyvesant, Columbus Co., about 18 miles from Albany, states that they have been grown from seed planted this year and under ordinary cultivation. He also states that the quality for the table is quite equal to that of the best varieties of the ordinary potato, and he believes that when the proper mode of cultivating the root is well understood, it can be planted with profit. Mr. S. V. Thornton, of Watervliet, exhibits the Feejee tomato, said to be a new variety of that vegetable, and superior to those previously in cultivation. It is very solid, and has been the favorite variety this year, where it has been introduced. Why the exhibition of the important products of the field and garden should be so poorly represented, I can only account for by supposing either that the country around Albany is not a very good agricultural district, which I believe is really the case, or else that the society does not attach much importance to a show of mere agricultural products as compared with cattle, machinery, &c., and consequently does not offer large enough premiums to induce the farmers to bring them out. At Syracuse last year, I am told, there was a large display in these classes of products.

In Fruit the show was large and good, particularly of pears and apples, of which the specimens were remarkably fine; of plums and peaches there were none, the season being too late for them; grapes were good, but not very remarkable. The fruit table was 120 feet in length, with three wide and well filled tiers on each side. The show of flowers was also large and fine, particularly of dahlias. The Fine Arts, exhibited in the same building as the fruits and flowers, were not very well represented.

In the Dairy Hall the large display of cheese should indicate that more attention is paid to this branch of farming. There were some fifty specimens, weighing 100lbs or over each, and, I should judge, of excellent quality. Butter was not so well represented, there being only a dozen or two small lots.

In Implements, there was a very large and excellent display. There were reapers and mowers, ploughs, straw-cutters, farm boilers, harrows, rollers, churns, cultivators, fanning mills, threshing machines, portable mills, cheese presses, clover mills, portable grist mills, seed drills, corn shellers, hay packers, &c., in great variety and profusion. The implements, I think, covered some three acres of ground. It would be impossible to specify more than a few articles. Amongst those deserving particular mention is Sherwood's grain binder, a little machine attached to any reaping machine for binding the grain in sheaves before it is deposited on the ground. The exhibitor of the binder states that he has bound 150 acres of grain with it this year; and that it is of perfectly practical application. Numerous testimonials from practical farmers certify to the value of the invention; but at all events, whether it is perfectly applicable in all cases or not, it has unquestionably solved the problem of binding grain by machinery, and shown how, with possibly some modifications under certain circumstances, the labor of at least five men per day can be saved. I consider this a most valuable improvement, and one which ought to be brought into general notice. It received a high premium at the United States Exhibition, at Chicago, in September. The material used to bind with is a light wire, which is passed round the sheaf, cut off the proper length, and the ends twisted together so as to hold firmly. It binds as fast as the reaper can cut, and in a much neater manner, and with less waste than by the ordinary method. The price of the machine is, I believe \$30. The manufacturer is Allen Sherwood, Auburn, State of New York. George Merritt, of Tecumseth, Michigan, exhibits a little machine for

husking corn, which does its work neatly and expeditiously, and would effect a great saving of labor where much of that crop is grown. It is worked by hand and only costs three and a half dollars.

In the two "Mechanics' Halls" may be seen every variety of machinery and manufacture from steam engine and printing presses to the smallest articles. The exhibition in this department is much more extensive than we ever have in Canada, and would well repay an attentive examination, but I have no time to report upon particular articles.

In the "Domestic Hall" were exhibited all sorts of small manufactures, including pickles, sauces, groceries, specimens of bookbinding, ladies' work, harness, upholstery, cabinet work, saddlery, trunks, carpeting, turning in wood, &c., &c., in endless variety. I noticed in this department, a less number of the elegant and fancy articles contributed by the ladies, such as crochet work, embroidery, netting, needlework, &c., than we usually see at our own exhibitions.

To summarize the comparison between ourselves and our neighbors, I should say we must improve a good deal before we can equal them in our horses, Durham and Devon cattle, fine woolled sheep, implements, machinery, manufactures generally and dairy products, at least in cheese; while in our Ayrshire cattle, we are at least on a par with them; in long woolled sheep, pigs, grain and roots, the latter especially, we excel them. In implements, some particular sorts of ours are perhaps better than theirs; their ploughs, for instance, would not be fancied by many of our farmers, and certainly do not do nearly so neat looking work as our own, but they excel us greatly in the variety and quantity of the implements displayed.

In one respect our neighbors greatly excel us, and that is in the concourse of people who flock to the grounds. This is partly attributable to their greater population, and partly to their greater propensity for sight-seeing. On the greatest day, Thursday, with the grounds and buildings completely thronged in every part, by thousands upon thousands of restless spectators, machinery and implements of every sort in perpetual motion, horses showing their paces in the ring, the steam plough, or rather the motive engine without the plough, perambulating the ground in all directions, a dozen church bells on exhibition of from 3,000 lbs. weight and downwards, continually sending forth their sweet sound, there was presented to the eye and ear, one of the most indescribable scenes of din, bustle, hubbub and confusion which can well be imagined.

To-day, Friday, I leave early, but I do not doubt that the attendance will be again large, and the receipts are certain to exceed \$20,000, which is several thousand more than on any former occasion.

A ploughing match takes place to-day in a field adjoining the grounds, but being obliged, as I have above stated, to leave early, I could not spare the time to examine the work. I could easily see however, at a glance, that it was not of that clean, smooth character, which we see done in Canada, the style of plough used here not admitting of it, although perhaps it may be argued that the work they do is really as useful for practical purposes.

STATE FAIRS.

We select the following brief notice of the exhibitions held this autumn by the Agricultural Societies of the various adjoining States from the condensed report given by the *Genesee Farmer* :—

UNITED STATES AGRICULTURAL FAIR.

The Fair of the United States Agricultural Society was held at Chicago, Illinois, September 12—17. The weather was unexceptionable, and the many railroads centering in Chicago were tasked to their utmost capacity to carry to and fro the immense concourse of visitors that kept pouring in day and night from all the surrounding region. The receipts amounted to over \$33,000. The fair was inaugurated by a speech from President Tighman, followed by speeches from Senators Crittenden and Douglass. After the speeches, a grand procession around the ring, of the horses and cattle, enabled one to see at a glance all the animals in those classes on exhibition.

The entries of articles numbered 2,552, viz: horses, 234; cattle, 210; sheep, 171; swine, 44; poultry, 57; farm and garden-products, 229; horticultural and household,

311; mechanical and agricultural implements, \$1,016; scientific, 209; miscellaneous 72. The crowd through the grounds was so great, and all the halls so densely packed with people, that it was next to impossible to see anything to advantage.

Horses were a prominent feature. A race, or in agricultural phraseology, a "trial of speed," for \$1,000, between the celebrated trotting nags Flora Temple and Princess, being one of the attractions. Several of the most noted horses from Vermont and Kentucky were exhibited.

CATTLE.—Among these the Devons predominated, and made a good display, both as to numbers and quality. In Short-horns, some splendid herds were shown, among which those of F. W. Stone, of Guelph C. W., and J. N. Brown, of Sangamon county, Ill., attracted special attention.

SHEEP.—The show in this department was remarkably good, mostly fine-wools, in which class the Messrs. McConnells, of Sangamon county, Ill., and Gregory, of Vermont, exhibited some very choice French and Spanish Merinoes. In Cotswolds, the flock of F. W. Stone, C. W., attracted special attention. There were also some fine sheep in this class shown by Brodie and Converse, of Jefferson county, N. Y. Of Leicesters, the finest were shown by Messrs. McGlashen and Miller of C. W. In South-downs, the flocks of Messrs. Toms, of Ohio, and Carpenter and Gage, of Ill., were among the best.

SWINE.—The show of these was not large, but there were some fine Suffolks, Essexes, and Berkshires shown.

FOWLS.—There was less variety than might have been expected, and this department showed evidence that the "hen fever" had subsided.

AGRICULTURAL IMPLEMENTS AND MACHINERY.—The show in this department was very large.

PENNSYLVANIA STATE FAIR.

The seventh exhibition of the Pennsylvania State Agricultural Society, took place at Philadelphia, Sept. 27—30, and proved entirely successful. The weather was fair and the attendance numerous—over \$23,000 having been received for admission fees.

An exciting attraction to this Fair was a trial of fire engines, both steam and hand-worked engines competing, 16 fire engines being on the ground.

HORSES.—Many of the animals were first class, and among them were some fine imported animals, as well as a good display of Morgans and Black Hawks.

CATTLE.—In Short-horns, James Gowen, of Mount Airy, exhibited a splendid herd. D. Kelly took the first premium in this class for his bull "Lord Barrington." Of Devons, the show was good, J. H. Strandberg, of Maryland, taking off the premium with his celebrated herd. Alderneys were also well represented, Dr. Twaddell taking several premiums.

SHEEP.—But few premiums were offered in this class, and there was not anything remarkable about those on the ground.

SWINE.—The display in this class was one of the finest on the ground, principally of the Suffolk, Berkshire and Chester county breeds. The small breeds are evidently gaining favor.

FAIR OF THE ST. LOUIS AGRICULTURAL AND MECHANICAL ASSOCIATION.

The Fair Grounds of this Association are probably the handsomest and best fitted up of any in the Union. Near the centre stands an immense amphitheatre, capable of seating 20,000 spectators. In the centre of this is erected a beautiful pagoda, from which a band of music enlivens the scene with its stirring strains. Around the pagoda is the ring for the display of the stock, all the animals in a class being led round the ring together, and the judges examine them and make their awards. The prize animals are then decorated with ribbons and are led round the ring alone, a herald proclaiming in a loud voice the names of the owners.

The Fair was held Sept. 26—Oct. 1. The Premium List was larger than that of any other association in the Union, and brought exhibitors from a great distance. Last year we visited this Fair, and were much disappointed in the character of the exhibition. This year the show appears to have been vastly superior—one more commensurate with the great liberality of the Premium List.

The exhibition of horses was very large. All the notabilities of the turf were there, as well as the most celebrated roadsters and draft horses. The premium of \$1,000 for roadster went to "Stockbridge Chief," owned by Messrs. Cooper and Green, of Jefferson county, Ky. The \$1,000 premium for thorough-bred stallions was carried off by "Revenue," owned by A. Buford, of Woodford county, Ky., against 31 competitors among which were "Lexington" and "Dubloon." The sweepstakes of \$300 for the best stallion on the ground, went to "Dubloon," owned by H. E. Moore, of Cooper county, Mo.; and that of \$200 for the best mare, went to "Belle Sheridan," owned by R. S. Morrison, of Lexington, Ky.

In the cattle department, the show was remarkably good, J. N. Brown and J. D. Smith, of Ill., and R. A. Alexander, of Ky., being the principal exhibitors. The \$1,000 premium for the best aged bull, was awarded to "Second Duke of Airdire," owned by R. A. Alexander, of Ky. The sweepstakes of \$300 for the best bull of any kind or age on the ground went to "King Alfred," owned by J. N. Brown, of Ill.; the \$200 sweepstakes for the best cow, to "Tulip," owned by the same breeder.

In every other department, the show was very superior.

The attendance was very large, considering that the weather was rather wet and stormy during the first week, which necessitated a continuance of the Fair into the second week, and it closed on Oct. 4, with the usual lady equestrianism.

ILLINOIS STATE FAIR.

This Fair, held at Freeport, Ill., September 5-9, appears to have been very successful. The grounds were finely located, the arrangements very good, and the weather throughout proved propitious. The fact of the United States National Fair being held so shortly afterward at Chicago, prevented many of the best breeders of stock in that State from sending their choicest animals to the State Fair. This was most particularly the case with horses, the animals in this class not coming up in numbers or quality to some former years.

The show of cattle was very fair, but not up to that of last year. Among the Short-horns were the fine herds of J. N. Brown, of Sangamon county, and N. M. Chamberlin, of Ohio, the latter of whom carried off the premium for the best bull in this class, and the former the first premium for the best herd on the ground. The Devons were well represented; the herds of Johathan Perrin, of Hope county, and C. D. Bent, of Iowa, ranking first in this class. Herefords and Alderneys were not numerous, but the herds of Thomas Aston, of Ohio, and a few choice animals from Maryland were of a quality hard to beat.

Of Sheep, the show was first rate; some very superior Long-wools appearing among them from the flock of J. McGlashen, of Pelham, C. W., who took several prizes. Of South-downs, the flock of Samuel Toms, of Ohio, containing many choice imported animals, carried off the ribbons. Fine-wools appeared in large numbers, and of fair quality. C. Rosensteil, of Freeport, E. F. McConnell, of Chatham, and Hammond and Barnes, of Wheaton, taking the first premiums in this class.

SWINE.—In this class the Essexes and Suffolks were well represented. The Hon. John Wentworth, of Chicago, and S. K. Ruble, of Wisconsin, and W. Peveril, of Rockford, taking the best prizes.

FARM PRODUCTS AND FRUITS, &c.—In this department the show was better than in any former year. The samples of grain shown were first rate, and the fruit, of which many of the best specimens were from "Egypt," were such as only the rich warm soil of Southern Illinois can produce.

Of implements generally, the number on exhibition was very large, among which corn shellers and sugar-cane mills showed the most novelties. The great attraction of the Fair was Fawkes' steam plow, and to it the State Society owe much of the success of the exhibition this year, in a pecuniary point of view. A trial was had of this plow, which performed all that was anticipated from it, and it was awarded the premium of \$3,000, and covered with garlands and ribbons by the ladies, and its merits duly set forth by the speech-makers of the occasion.

OHIO STATE FAIR

Was held at Zanesville, Sept. 20-23. Great preparations were made for this Fair, and the material for a good show in several of the departments came to the ground, the entries numbering up to 2,506. But the weather proved inauspicious, and considerably lessened the attendance of visitors and live stock. The receipts only reached \$9,500.

HORSES.—There were fewer than usual, but among those present were some very fine imported animals from the stables of Messrs. Alexander and Woodroffe, of Ky.

CATTLE.—The show of these was small, and many of the old familiar faces were absent. The prize herd of Short-horns was that belonging to the estate of the late Mr. Lang, Highland co. Of Herefords, Devons and Ayrshires, the *Ohio Cultivator* says: "There were just enough to swear by," Thomas Aston and G. W. Penny showing some good animals.

SHEEP came out in respectable numbers, and of good quality, as did also swine.

MACHINERY AND IMPLEMENTS.—This department was the best of the show. Among the machinery were some portable steam engines for farm purposes; sugar evaporators; and a new monster traction engine, propelled by horse power, to which a mole plow was attached, that opens the channel, and cements it as it travels. Of implements, the plows were the great feature. There were also some specimens of drain-tile, from the Woodstock works.

MICHIGAN STATE FAIR.

This fair was held at Detroit, October 4—7. The weather proved fair, and there was a good attendance of visitors. The entries numbered 2,314.

HORSES.—The show of these was large and good. Among them were some from Vermont and Canada. M. E. Crofoot, of Pontiac, showed a fine team of matched horses (greys) which took the first premium.

CATTLE.—Short-horns mustered strong; the first premium for aged bulls going to S. W. Dexter, of Dexter, Michigan. A. & J. Barber, of Avon, N. Y., showed a fine herd in this class, and took several prizes. A good many Devons were shown, some of which ranked high in quality. C. Rich, of Lapeer, took the first premium for aged bulls, and Ballard & Sons, of Niles, and J. Allen & Sons, of Coldwater, took several prizes for their stock in this class. Herefords and Ayrshires did not show largely, but those on the ground were good.

SHEEP.—A good show, principally fine-wools. H. Hitchcock, of Lyons, and B. Pecham, of Albion, showed some fine Spanish Merinos, and took the first premium in this class. N. S. Schuyler and J. L. Thompson, of Coldwater, took the first premium in French Merinos. Saxons and Silesians also mustered up pretty strong. In South-downs, S. Toms, of Ohio, proved invincible, carrying off the first premiums. Of Leicesters and Cotswolds, several fine animals were shown, mostly from Canada.

SWINE.—Not very numerous; nearly all the prizes went to the Suffolk and Essex breeds.

The other departments were all well represented.

NEW JERSEY STATE FAIR.

This Fair, held at Elizabeth, September 13—17, was the most successful ever held in the State. The entries numbered 1,059, and the receipts at the gate amounted to \$7,000. The show of horses was very numerous and superior, and embraced some of the champions of the American turf.

CATTLE.—In Durhams, G. Hartshorne, of Rathway, and B. & C. S. Haines, of Elizabeth, took most of the premiums. In the other classes, Devons and Ayrshires were most numerous, and many fine animals were shown.

SHEEP.—In this class the entries were all of long and middle-wools, no fine-wools being shown. The premium for the best ram went to B. & C. S. Haines, for their imported Hampshire Down bucks—a variety of South Downs meriting more attention than they have yet received in this country.

All the other classes were well filled. One novelty was a goose 85 years old.

The weather was fine, and all the arrangements gave perfect satisfaction.

VERMONT STATE FAIR.

This Fair, held at Burlington Sept. 13—16, was very successful. Horses were the predominant feature. There were 544 entries of horses, besides mares with foals!—"Young Columbus" took the first prize on the course. The Morgan stock was most numerous, though "Ethan Allen" and "Black Hawk" had some worthy representatives. A four-year-old colt, owned by Mr. Baldwin of Ticonderoga, N. Y., is said to have exhibited a promise of being a worthy successor of "Black Hawk."

EVENING DISCUSSIONS AT NEW YORK STATE FAIR.

At the late New York State Fair at Albany, meetings were held each evening for discussion in the Agricultural Hall, a large and handsome building erected by the Society in a central part of the city, for the purposes of an office, library, museum, &c. One of the conductors of this journal had the pleasure of being present on two of the evenings. The subjects discussed were, The Management of Manures, The Treatment of Grass Lands, and The Soiling System. We take the remarks of a few of the speeches on Thursday evening, October 6, from the Report of "The Country Gentleman."

L. F. ALLEN of Black Rock. Every farmer should be allowed to tell his own story in his own way, for there are various causes which influence his circumstances, both natural and artificial, such as soil and climate, near or remote from market, &c., which he himself best knows, and which others are entirely ignorant of; and no man's system of farming should be condemned by another, simply because it does not apply to *his* individual circumstances. Hence we see that men of good judgment and careful experience differ widely, each in his own way. If a farmer hears another farmer say what *he* knows to be best, how can the former practise what the latter teaches? Soils need different treatment, and that treatment which one person gives his land and which succeeds, may not succeed with another. Doubtless some soils when once laid down, are better to be kept so; others need to be often plowed up. In good dairy regions of England, pastures have laid since the conquest with a surface manuring, and now produce better than ever. The soils of Westchester have never been moved, and are now better than ever before. In the southern counties, three-fourths of the land has never been plowed either in mowing or pasture, and their meadows now yield 3 tons per acre. These meadows also show at the present day, the cradle knolls of centuries ago, and the owners of those farms will not let the sod be broken upon them. They know very well that there is a rich vegetable deposit of leaves that has constituted a humus in the soil, which if once broken is lost forever.

Hon. JOSIAH QUINCY, Jr., of Massachusetts, took the stand. The substance of his remarks was as follows:—In connection with the subject of soiling, one of the first questions asked is, how much land does it require to keep a cow? I have learned that one square rod of grass, barley, oats, or corn, is sufficient for the food of a cow a single day. The best fodder for the purpose of soiling is grass, oats, Indian corn and barley. My system is this; I use grass until July; about the 5th of April, oats are planted at the rate of four bushels per acre; they are also planted on the 20th of April, and the 1st of May. This lasts through July and August, and corn so planted will remain succulent for about ten days. The southern variety of corn is then sown in drills, in the quantity of three bushels the acre, which furnishes food for September and October. Barley is then planted ten days apart, which lasts till vegetables come on. In winter the feed consisted of hay, cotton seed meal, and roots—[Mr. Quincy here spoke of the advantages arising from this system, which he alluded to in his remarks the previous evening, and continued]—The great increase in the soiling system is as seven to one; that where only one cow was kept without this practice, seven can be kept by it, and I have demonstrated that one acre of land in a good state of cultivation, will afford sufficient food to keep three cows through the season. [Here the gentleman alluded to the manner of using liquid manure, as practised by Mr. Mechi in England, which consists of a serious of pipes in the ground, through which liquid manure is forced by means of steam power—which has before been described in the Co. GENT—and he also spoke of the system of manuring in Scotland, by which their lands have been made to produce from five to seven crops in one year, and further remarked.] *It has been well said that there are three important elements or principles which constitute a good farm; the first of these is manure, the second is manure, and the third is MANURE!* I place but little confidence in patent fertilizers, so great is the adulteration in most kinds, but strongly urge each farmer to raise his own manure upon his own farm. Muck I use as an absorbent, by placing it in a gutter in the stable for my cows, which gutter is eighteen inches wide and four deep. There is a cellar under the stable into which the manure passes. I am sorry to say that I keep only about twenty cows;—in the morning and evening these are let out in the yard, where they remain a few hours, as it is

not necessary that they have a great amount of exercise. My cows are perfectly healthy, having never lost an animal, and this system appears to agree perfectly with their health and comfort in every respect. They do not suffer from drouth or loss of pasture. The mowing is usually done in the morning, and the cows are fed five times during the day. I think one man would be employed half of his time in feeding twenty cows, if the fodder was not too remote from the stable. One other advantage of the soiling system was, that it added in importance and numbers to the list of farmers in our country.

Mr. GEDNEY, of Westchester.—I draw out my farm manure in Spring, and then turn it under for corn, after which wheat is sown with top-dressing of bones. I keep 20 cows, from which I save in one year about 100 hogheads of liquid manure, by means of a series of spouts and a large tank constructed for the purpose. The liquid is pumped from the tank, and sprinkled upon the land as a top dressing. In six months it will increase the product of grass per acre three-fourths. Keep my cows up in stables all summer—i. e., night.

Mr. STEWART, of Hamburg, Erie Co.—For three years I have practised soiling, and find it a benefit both to men and animals. In the course of my experiments I have found that one acre cut is equal to four acres in pasturage. The manure that is saved by this system more than pays all the expenses attendant upon it; and the saving in fences would in most localities also pay all expenses. The increase in the value of animals is also about five-fold. I practiced feeding cut straw, steamed and mixed with one pint of corn-meal to the bushel. This I find makes better feed than an equal amount of timothy. I think one man can care for fifty cows, and milk ten of them in addition, if the feed is close by. By this method I make \$500 per year more than by the old system of pasturage. For feed I used roots to the 20th of May, and then cut clover until after haying. Have raised corn, and consider it the best fodder for the purpose, as it comes nearest to grass. I have also found that butter made from it will keep longer than that made from any other feed. For winter I mix carrots and oil-meal with cut straw, and give three bushels per day to each cow. Food is steamed before it is given out.

SHORT NOTICES OF COUNTY SHOWS.

The season of Autumn Agricultural Shows and Fairs is now nearly or quite over for the present year. From early in September to the present time, probably from a dozen to twenty-five or thirty county or township exhibitions have taken place every week in one part or other of the Province. Some persons indeed are of opinion that we have a great many too many of them, and that there would be both economy and advantage in many instances in combining several of the small county or township shows into one of larger pretensions. Let this be as it may, it is beyond question that much progress and benefit has resulted from these annual gatherings and exhibitions of skill; and if any decided improvement can be effected in the mode of conducting them, it may reasonably be anticipated that correspondingly increased advantages would be gained. The farmer whose whole summer has been one continued season of active and laborious industry, not unmingled with occasional anxiety and suspense, having at length secured his crops in his barns or stacks, threshed out and disposed of so much of them as his immediate occasions require, and got his fall wheat satisfactorily put in the ground, fenced, drained, &c., looks forward to the visits of himself and family to the township, county or provincial show as a season of leisure and relaxation from their long sustained labor. The mind there receives some pleasurable sensations in the change of scene and of incidents from those of every day occurrence. Friends are met with, perhaps, who had not been seen since on a similar occasion the preceding year. Some superior animal, agricultural product, improved implement, or specimen of mechanical skill meets the eye of the farmer or the mechanic, which convinces the former that his live stock, his products, or his farm implements are not all they should be, and the latter that he must make another trial before he can pronounce his own work or manufacture quite perfect. For these reasons and numerous others, the autumn exhibition season is to many persons one of the most interesting and pleasurable which occurs

during the year. In fact, it is to very many, owing to the nature of the farmer's occupation, his peculiar dependence upon the seasons, &c., almost the only term of relaxation and enjoyment which they indulge in, apart from their ordinary occupation. The farmer's life and occupation affords him, in the study of his art, and in the unfolding of the beauties of nature which he sees every day around him, not to mention numerous other advantages of his position, material, if properly improved, for as pure enjoyment and as high mental cultivation as any other profession. But even supposing the home circumstances fully turned to advantage—which is, we fear, in few cases—the farmer, as well as other people, requires an occasional change of scene and of occupation. And when he is from home he should not be satisfied with merely looking at something which he is convinced is much better than anything he has himself, and then go back and forget all about it; he should make a note of it and be determined at the very first practicable moment to have something as good or a great deal better.

We should be glad to receive from the officers of agricultural societies, brief notices of anything deserving particular mention at their shows, or on other occasions, for early publication in the journal. Our limits of course do not admit of long reports; and besides, the details of the prize list, &c., must be embodied in the Reports to be adopted next January. But we should like to receive, not only in reference to the shows, but on all other occasions, frequent short communications from our readers, on all subjects of interest which come under their observation. In the absence of anything of the kind in reference to the autumn exhibitions, we condense from such newspaper reports as have come into our hands, the prominent features of a few of the Autumn County Shows. To notice the Township Exhibitions also, although in many cases they are equally interesting and even better attended, would require more space than we have at disposal.

CITY OF TORONTO AND WEST RIDING OF YORK AGRICULTURAL SOCIETIES' Union Exhibition, held at the Crystal Palace, Toronto, on the 14th and 15th, September. \$1500 offered in premiums, and about \$1300 awarded. About 1200 entries. A good exhibition, particularly in the Horticultural and the Arts departments. As an experiment in the union of two electoral division societies, it was a decided success. Over \$650 were taken in admission fees at the gates.

NORTH SIMCOE.—Held at Barrie on September 23rd. Being the first show of the society in which the industrial arts were represented, it attracted much interest and was a satisfactory meeting.

SOUTH WELLINGTON.—Held at Guelph, October 4th. Remarkable for the large display of Durhams, there being 41 entries in this class, Messrs. F. W. Stone, J. Parkinson, A. Hogge, and S. Hodgskin being the chief exhibitors. Messrs. Parkinson and Stone carried off the largest number of prizes for sheep. There were altogether 540 entries, and the show was very well attended.

DUNDAS COUNTY.—Held at Morrisburg, October 5th. Show of horses small; of sheep, cattle, and agricultural products very good. The department of home manufactures and ladies' work proved specially attractive.

ESSEX COUNTY.—Held at Amherstburgh, October 12th and 13th. Exhibition stated to be not so good as on some former occasions, which is attributed partly to the smallness of the amount offered in premiums. Some sheep, however, purchased by the society at the late Michigan State Fair and other quarters were very superior. The grain, roots, apples, &c., were beyond all praise, and asserted by the local paper to be equal to anything at the U. S. National Fair at Chicago, or the Michigan State Fair.

EAST DURHAM AND TOWNSHIP OF HOPE.—Held at Port Hope, October, 11th. The exhibition of ladies' work, fine arts, and domestic manufactures was particularly attractive. Messrs. Wade and Foott were the principal exhibitors of Durham cattle; Mr. Choate, of Devons and Grades; Messrs. Dickenson, Foott, Choate and Carveth, of Sheep and Swine. Mr. Wm. McDougall delivered an address. The attendance was large, and altogether the meeting highly satisfactory.

NORTH WELLINGTON.—Held at Elora, October 11th. Attendance not very large. Samples of grain, vegetables, and manufactured articles not very numerous but of superior quality. The display of sheep was excellent. Mr. Anderson, of Elora, exhibited a number of superior implements.

NORTH YORK.—Held at Newmarket, on 11th and 12th October. Considered the best show ever held at Newmarket. The fine arts, ladies' department and manufactures were a prominent feature. There were over 700 entries of articles. A good show of implements. A large number of horses, cattle and sheep, and of fine quality.

EAST NORTHUMBERLAND.—Held at Warkworth, October 12th. We have no particulars. There seems to have been a pretty spirited competition for the prizes offered.

HALDIMAND COUNTY.—Held at Cayuga, October 18th. A successful meeting. The show of horses, cattle and sheep good. Of grain, roots, &c., the entries were numerous and the samples particularly good. Messrs. Dochstader, Gowland, Miller and Young were the chief exhibitors of horses; Messrs. Ferguson, Wickett, Dochstader and Griffith, of cattle; Messrs. Blanchard, Petch, Bain and Maitland, of sheep.

EAST YORK.—Held at Malvern, Scarborough, October, 17th. We understand that it was a very successful meeting, but have not the particulars.

GUELPH MONTHLY FAIR.—The October Fair held yesterday, was the largest and most successful since they were first inaugurated. The grounds were literally crowded from the Grand Trunk Station to far below the Market, and it is estimated that upwards of 1500 head of Cattle were on the ground. The prices demanded were extremely high, ranging from \$100 to \$125 per yoke for Oxen, and one yoke we believe was sold for \$130. The usual price offered was \$75, per yoke, and hundreds exchanged owners at that rate. The principal part are bought for the Albany and New York Markets. One dealer, Mr. Reade of Toronto, shipping from the last fair no less than 300. On Tuesday, at Elora, he bought 45 head, and in Guelph 30. Taking the fair altogether it was as successful as could be desired, and farmers have had hitherto no reason to complain of the want of accommodations upon coming to these fairs.—*Guelph Advertiser, Oct. 6.*

SALE OF THOROUGH-BRED DURHAM STOCK.—The Hon. Adam Fergusson, according to announcement, disposed of a part of his herd of Durhams yesterday. The cattle were in a somewhat low condition, but this served better to display their points, and some fancy breeders pronounced them equal to anything that they had ever seen in our market. There were 6 heifers and 4 bulls. The bidding continued brisk throughout the sale, and they were all readily disposed of, and delivered on the ground. The prices realized, which appeared to be satisfactory, were as follows:—

HEIFERS.

Britannia, red and white, calved 22d Feb., 1856, dam Primrose, sire Victor; served by Ethelbert, \$57, bought by William Armstrong.

Daisy, roan, calved April 11th, 1857, dam Duchess, sire Hero; \$62½, bought by Patrick Hughes.

Mayflower, red, calved May 20, 1857, dam Cherry, sire Hero, \$88; bought by John Armstrong.

Eltie, red and white, calved Dec. 27, 1857, dam Britannia, sire Field Marshal, \$53; bought by John Mitchell.

Daffodil, roan, calved March 15, 1858, dam Primrose, sire Hero, \$61; bought by Thomas Whitelaw.

Hoyden, red, calved March 28, 1858, dam Wildame, sire, Mr. Davis Wentworth, bought by C. P. Hutchinson, \$50.

BULLS.

Harold, roan, calved Sept. 16th, 1858, dam Alma, sire Ethelbert, \$25; bought by Robert Amos.

Canada Lad, red and white, calved March 24, 1859, dam Primrose, sire Ethelbert, bought by James Cowan; \$35.

Lord Clyde, red, calved April 17, 1859, dam Duchess, sire Ethelbert, \$48; bought by C. P. Hutchinson.

Marquis, red, calved April 16, 1859, dam Countess, sire Ethelbert, \$62; bought by Arthur Hogge.

A grade Heifer was also sold to Thomas Williams for \$20.

MILK WHICH DOES NOT YIELD BUTTER, AND THE MEANS TO REMEDY IT.—The author calls the attention of those who are chiefly interested in such cases, in which there is no disease of the mammary gland nor loss of milk, but a want of oleaginous matters in the fluid. In the causes of this deficiency of butter making quality, he concludes that there are *two* principal ones, viz: idiosyncrasy and alimentation; but there is another which cannot be so easily defined, and which occurs in animals that are well kept, and whose milk has been previously rich in butter. It is to these that the remedy is principally directed. The remedy consists in giving the animal two ounces of the sulphuret of antimony, with three ounces of coriander seeds, powdered and well mixed. This is to be given as a soft bolus, and followed by a draught composed of half a pint of water, and a handful of common salt, for three successive mornings, on an empty stomach.

The remedy, according to the author, rarely fails, and the milk produced some days after its exhibition, is found to be richer in cream. The first churning yields a larger quantity of butter, but the second and the third are still more satisfactory in their results.

A letter from a farmer states that he had fourteen cows in full milk, from which he obtained very little butter, and that of a bad quality. Guided by the statements of M. Denebourg, which had appeared in the *Annales Veterinaries*, he had separately tested the milk of his cows, and found that the bad quality of it was owing to one cow only, and that the milk of the others yielded good and abundant butter. It was, therefore, clearly established that the loss he had so long sustained was to be attributed to this cow only. He at once administered the remedy recommended by M. Denebourg, which effected a cure.—*Veterinarian*.

FIXED FACTS IN AGRICULTURE.—Somebody has made up the following list of "fixed facts" in agriculture. Though calculated for the Eastern States, many of the facts are of general application:

1. All lands on which clover or the other grasses are sown, must either have lime in them naturally, or that mineral must be artificially supplied. It matters but little whether it be supplied in the form of stone-lime, oyster-lime, or marl.
2. All permanent improvement of lands must look to lime as its basis.
3. Lands which have long been in culture, will be benefitted by application of phosphate of lime, and it is unimportant whether the deficiency be supplied in the form of bone dust, guano, native phosphate of lime, composts of flesh, ashes, or that of oyster-shell lime—or marl—if the land needs it.
4. No lands can be preserved in a high state of fertility, unless clover and the grasses are cultivated in the course of rotation.
5. Mould is indispensable in every soil, and a healthy supply can alone be preserved through the cultivation of clover and the grasses, the turning in of green crops, or by the application of composts, rich in the elements of the best mould.
6. All highly concentrated animal manures are increased in value, and their benefits produced by admixture with plaster, salt or pulverized charcoal.
7. Deep ploughing improves the productive powers of every variety of soil that is not wet.
8. Sub-soiling sound land, that is, land that is not wet, is eminently conducive to increased production.
9. All wet lands should be drained.
10. All grain crops should be harvested before the grain is thoroughly ripe.
11. Clover, as well as the grasses intended for hay, should be mowed when in full bloom.
12. Sandy lands can be most effectually improved by clay. When such lands require liming or marling, the lime or marl is most beneficially applied when made into a compost with clay. In slacking lime, salt brine is better than water.
13. The chopping or grinding of grain to be fed to stock, operates as a saving of at least twenty-five per cent.
14. Draining of wet lands and marshes adds to their value, by making them produce more, and by improving the health of the neighborhoods.
15. To manure or lime wet lands, is to throw manure, lime and labor away.
16. Shallow ploughing operates to impoverish the soil, while it decreases production.
17. By stabling and shedding stock during the winter, a saving of one-fourth of the food may be effected; that is, one-fourth less food will answer, than when the stock is exposed to the inclemencies of the weather.

18. A bushel of plaster per acre, sown broadcast over clover, will add one hundred per cent to its produce.

19. Periodical application of ashes tends to keep up the integrants of the soil by supplying most, if not all, of the organic substance.

20. Thorough preparation of land is absolutely necessary to the successful and luxuriant growth of crops.

21. Abundant crops cannot be grown for a succession of years, unless care is taken to provide an equivalent for the substance carried off the land in the land products grown thereon.

22. To preserve meadows in their productiveness, it is necessary to harrow them every second autumn, apply top-dressing, and roll them.

23. All stiff clays are benefitted by fall and winter ploughings, but should never be ploughed when wet. If at such ploughings the furrow be materially deepened, lime, marl or ashes should be applied.

24. Young stock should be moderately fed with grain and watered, and receive generous supplies of long provender, it being essential to keep them in a fair condition, in order that the formation of muscle, bones, &c., may be encouraged and continuously carried on.

25. Milch cows in winter, should be kept in dry, moderately warm, but well ventilated quarters, fed and watered three times a day, salted two or three times a week, have clean beds, be curried daily, and, in addition to their long provender, should receive succulent food morning and night.

26. Full complement of tools and implements of husbandry are intimately connected with the success of the husbandman.

27. Capital is not only necessary to agricultural success, but can be properly used in farming as in any other occupation.

DAIRIES AND BONE MANURE.—An English paper, in commenting upon this subject, remarks that the Cheshire dairy farmer, by the free use of bone manure laid on his grass lands, makes his farm, which, at one time, before the application of bone manure, fed only twenty head of cows, now feed forty! In Cheshire, two-thirds or more, generally three-fourths of a dairy farm are kept in perfect pasture, the remainder in tillage. Its dairy farmers are commonly bound to lay the whole of their manure, not on the arable but on the grass land, purchasing what may be necessary for the arable. The chief improvement, besides drainage, consists in the application of bone manure. In the milk of each cow, in its urine, in its manure, in the bones of each calf reared and sold off, a farm parts with as much earthy phosphates of lime as is contained in half a hundred weight of bone dust. Hence the advantage found in returning this mineral manure by boning grass lands. The quantity of bones now given in Cheshire to an imperial acre of grass land is about twelve or fifteen cwt. This dressing on pasture lands will last seven or eight years; and on mowed land about half that period. But the grass land once boned and kept under pasture is never so exhausted as to be as poor as it was before the application.—*Rural New-Yorker*.

HOW TO TEST THE QUALITY OF WOOL.—A Texas paper says: Take a lock of wool from the sheep's back, and place it upon an inch rule. If you can count from thirty to thirty-three of the spirals or folds in the space of an inch, it equals in quality the finest electoral of Saxony wool grown. Of course when the number of spirals to the inch diminishes, the quality of the wool becomes relatively inferior. Many tests have been tried, but this is considered the simplest and best. Cotswold wool and some other inferior wools do not measure nine spirals to the inch. With this test, every farmer has in possession a knowledge which will enable him to form a correct judgment of the quality of all kinds of wool. There are some coarse wools which experienced wool growers do not rank as wool, but as hair, on account of the hardness and straightness of the fibre.

FOR HIDE BOUND HORSES.—*Symptoms*—Skin firmly attached to the body; animal in poor condition; coat staring.

Treatment—Give good nourishing food, with warm mashes, and mix one of the following powders every day in the feed. Sulphate of copper 1 oz., pulverized gentian root 2 oz.; mix and divide into twelve powders.

An excellent ointment for saddle galls, &c. Camphor 2 drachms, oil of rosemary 1 drachm, lard 3 ounces. Apply twice a day.

STEAM CULTURE.—The process of cultivation by steam is gradually approximating to that point which will render it an established economic system, placing agriculture on a par with every other branch of industry. Improvements in the present, and suggestions of new, methods of adapting this power to the existing conditions of the land, concur with the admissions of the machinists themselves, in proving that the system is still in its infancy, and that something is wanted to bring it within the ordinary range of the labour and implements of the farm. Those intelligent and skilful men, the machinists, who expend thousands upon experiments, with a fearlessness which proves both confidence in their own judgment and the all-importance of the subject, feel that something is still wanting to effect the desired object, and render the steam-plough as common and effective as the thrashing-machine, and the winnower or chaff-cutter. Steam culture is, indeed, a subject of the first importance to the British farmer, involving the future of agriculture to an extent he himself is scarcely aware of. We anticipate the time when England will, by the general application of steam power to *all* the labour of the farm, be able to grow corn at a much cheaper rate than she can now import it from any country in the world, whilst the produce will be so increased as to render such importations unnecessary; nor will the progress of steam be stayed until these objects are fully accomplished.

We have, during the past week, had an opportunity of witnessing a further step in this progress—"Eddington's Improvement on John Fowler's steam-plough," which we saw at work on the Warren Farm, in the occupation of Mr. Perry, at Writtle, near Chelmsford, where Mr. Eddington's foundry is situated. This machine has ploughed upwards of 150 acres in the immediate neighbourhood of Chelmsford since harvest.

The improvement consists, in the first place, in adapting the ordinary steam engine of the farm to the purposes of the plough, by separating from it the windlass, which is attached to it in Fowler's plan. The windlass is fixed on a strong oaken frame, which also is furnished with two drums for receiving and giving out the coils of rope employed in the working. On the top of this frame stands the engine (8-horse power), which by its weight adds to the stability of the machinery, while the power is more directly applied to it. In the second place, Mr. Eddington employs two engines and two sets of ploughs, one stationed at each end of the field. By this means he not only gets rid of the necessity of employing an anchor, which is a cumbersome machine, but he executes double the work in a given time. The field in which we saw the machine at work was four hundred yards across; and an engine being stationed at each end, the ploughing apparatus met in the middle, and then returned, each to its opposite headland. Thus the same length of wire rope is used for the two as was used upon the original plan by Fowler for one, the additional engine being substituted for the anchor and sheaves, which may be called a non-working implement. The engines are stationed at right angles with the work, and move along the headland as the operation proceeds. With the common labourers of the farm, in addition to the enginemen who are employed by Mr. Eddington, he executes ten acres per day; but he is quite certain that when the former become accustomed to the ploughs and machinery, and have a stimulus of extra pay set before them, they will be able easily to execute from fourteen to sixteen acres per day. In case only one engine is used, the economy of the plan will be reduced to the employment of the common thrashing engine, and the greater compactness of the machinery by having the engine placed on the top of the oak frame instead of being placed separate, as on the original plan. In other respects, the anchor and the same length of rope would be necessary for one engine as in Fowler's plan. There were eight plough-breasts attached to each engine when we inspected it, and the work was exceedingly well executed—without, of course, any furrows. On a large farm, the economy of using two engines is obvious. Few farmers occupying from 500 to 1,000 acres are without two steam engines of 8 horse power, and with these the work of ploughing—of so much importance at certain periods of the year—may be executed with a speed unattainable on any other existing plan.

And now, with regard to the financial economy of the Eddington steam plough. The manual labour consists of two enginemen at 3s. 6d. per day each, two ploughmen at 2s. 6d., four labourers at 2s., two boys at 1s., one horse and man fetching water at 6s., and 18 cwt. of coal, 20s., making in all £2 8s. per day. This brings the working expenses to 5s. per acre; to which must be added 2s. per acre for wear and tear of the machinery and rope, bringing the total expense to 7s. per acre. It was estimated by the farmer that the land on which we saw the machine at work could not be ploughed by horse power at less than 15s. per acre.

Mr. Eddington has announced that the steam plough will be at work this week on Mr. Perry's farm. It is therefore probable many of the neighboring agriculturists will avail themselves of the opportunity of witnessing its operation.—*Mark Lane Express*.

FOWLS—FOOD, &c.—When fowls are confined to a narrow space they require much care and attention to supply them with all kinds of food which they collect when running at large; and without care to supply their wants, they will not be profitable. When running at large, as they please, they devour many insects, eat gravel, lime and various kinds of herbage, seeds of various kinds, and many other things which we cannot discriminate, though we look on while they select their food.

In winter, when fowls have less access to the ground, or when they are confined in small enclosures, they have less opportunity to select the mineral substances which they require. Hence an artificial supply becomes necessary. How shall this be given? By placing the articles within their reach, so that they may take voluntarily just the quantity to which they are prompted by nature. Place old lime-mortar, bones, oyster or clam shells, broken fine, where the fowls can readily pick them up. It has been ascertained that if you mix with their food a sufficient quantity of egg shells, broken bones, oyster shells, and effete lime, which they eat greedily when so mixed, they will lay twice or thrice as many eggs as before. A well fed fowl is disposed to lay a vast number of eggs, but cannot do so without the materials for the shells, however nourishing in other respects the food may be; indeed, a fowl fed on food and water, free from carbonate of lime, and not finding any in the soil, or in the shape of mortar, which they often eat on the walls, would lay no eggs at all, with the best will in the world. A letter was read a few years ago before the British Association, from M. Sace, of Neufchâtel, Switzerland, on account of some experiments in the feeding of fowls. He states, first, that fowls to which a portion of chalk is given with their food, lay eggs the shells of which are remarkable for their porcelain whiteness. By substituting for chalk a calcareous earth, rich in oxide of iron, the shells become of an orange red color. Secondly, he informs us that some hens fed upon barley alone would not lay well, and they will tear off each other's feathers. He then mixed with the barley some feathers chopped, which they eat eagerly and digested freely. By adding milk to their food they began to lay, and ceased plucking out each other's feathers. He concludes that this proceeding arose from the desire of the hens for azote food. An idea prevails with many, that any sort of grain, even if a little damaged, will do for poultry, but this is a grand mistake. A friend of the writer once came very near losing his whole flock of valuable fowls from feeding them with damaged corn, which had been heated. Those who feed largely know better, and invariably make it a rule to feed none but the best. Eggs, if at any time are a luxury, it is in winter, and whatever promotes their production is of interest to the majority of our readers.—*Country Gentleman*.

Horticultural.

TRANSPLANTING EVERGREENS.—We select the following opportune article on the above subject from our excellent cotemporary. *The Gardeners' Chronicle*. It is from the pen of Mr. Henry Groom.

As great diversity of opinion exists as to the best time for removing evergreens, and having read your article in the *Chronicle* of the 6th ult., on removing Rhododendrons, &c., perhaps the following facts may not be uninteresting to your readers. I have long been of opinion that summer was the best time for the operation, but never having had the opportunity until the last few years of testing it to any extent, it merely remained an opinion. During the last three years I have tested it most thoroughly, and have no hesitation in saying that the months of June, July, and August are the best three months in the year for the operation. We have transplanted many hundreds at the time named, and mostly of a large size, Hollies, for instance, more than 20 feet high; Pinuses (generally bad to manage) from 15 to 20 feet high—not lost one; Deodars, 15 feet; Araucarias, 5 feet; Hemlock Spruces, 10 feet; Common Spruces, 20 feet; many plants of *Arborvitæ*, 10 feet; Yews, 15 feet; very many Portugal Laurels, from 7 to 8 feet high, and 10 feet through; Berberis, many 7 feet high; Phillyreas, Arbutus, Irish Yews, &c., of rather smaller sizes. Our loss has never in any of the three years exceeded one in fifty, and in almost every case the cause of failure could be easily explained. With the

majority of the plants not the least sign was visible of their having been transplanted; the very young growth of some removed earliest in the season would sometimes droop during very hot sunshine, but a good sprinkling with water over head from the garden engine soon put all right again. Our practice has been to give a thorough watering at the time of planting, both to the roots and leaves, and to continue watering the foliage every evening for a week or ten days; by that time the plant is perfectly safe, and will require little further attention, with the exception perhaps of one or two good waterings at the root should the weather prove very dry. At the season named, when a plant does fail, it is generally within a week from being planted, and can consequently be easily replaced, whilst the operation is in hand, thus making any after disturbance of the ground unnecessary, a great point generally where the plants have to be removed a considerable distance, thus necessitating their being out of the ground for a considerable time (more than a day and a night for instance); perhaps rather later in the season, say September, might be safer, as the roots would be less liable than during the hotter months to get dried sufficiently to injure the plants. Nearly the whole of the evergreens planted at this place during the last three years have been merely removed from one part of the grounds to another; in nearly every instance they have been planted the same day as they were taken up, and so little do they show any sign of having been removed, that a stranger would never for an instant suppose that such had been the case. In fact several who have seen them lately could scarcely believe that plants of such a size had been so recently planted. We have removed plants of a similar size at nearly all times of the year; but at no other period can anything like the same amount of success be obtained—at no other time do they appear to “push away” with the same “freeness.” Many of the large Yews, Deodars, and similar things, removed this summer, have made a beautiful growth since being planted; and on baring down to the roots two or three weeks after planting, we have found thousands of “rootlets” actively at work, leaving little room to doubt that the plants would soon be in a more robust state of health than they would have been had they never been moved. As to Rhododendrons, we have planted many hundreds at nearly all times in the year, very many of a large size this last June, and I not recollect ever having lost one. Should any of your readers doubt these facts, they are at liberty to come and see for themselves. So fully am I satisfied of the three months named being the best time for removing evergreens of every description, that I have no hesitation in predicting that in a very short time it will become general to transplant at that season.

GRAPE GROWING IN THE LATITUDE OF CANADA.—An opinion prevails that this luscious fruit cannot be ripened in the open air in this latitude—this we are confident is erroneous. Some few days since we saw and tasted, in the office of Dr. Kellogg, some native grapes grown at Plattsburgh, in the nurseries of John W. Bailey, Esq., and though this locality is a full degree north of our own, they are fully ripe, and some specimens of the kinds, known as the Delaware, Diana, Northern, Muscadine, and Cowan, particularly the two former, were quite equal to any grape grown under glass we have ever tasted. We also saw and tasted specimens of the Diana ripened on vines received from Plattsburg, and planted in the Doctor's grounds in the fall of 1858. Several vines of the native varieties known as the Clinton and Isabella (which are said by all Horticulturists to be full three weeks later than the former varieties) growing on the premises of Joseph Newman, Esq., have ripened their fruit even this season, so unusually cold, and a luxuriant Isabella vine on the premises of Mr. Knapp has ripened bushels of most luscious fruit, for two years past. If such fruit as this can be matured here, and experience shows that it can, every one who has a rood of ground should plant a vine, and protect it for a few seasons and it will make ample returns.—*Port Hope Guide.*

GOOD CIDER.—The following recipe for improving cider, we copy from the *Boston Cultivator*. Let it be noted that *Sulphite* is a very different thing from *Sulphate of Lime*—the latter being the common ground plaster or gypsum. The applicability of the *Sulphite* to the purpose of stopping the fermentation, is in fact due to that which constitutes its difference chemically from the Sulphate. It is precisely because *it is no Sulphate* that it answers the purpose of checking fermentation.—*Am. Farmer.*