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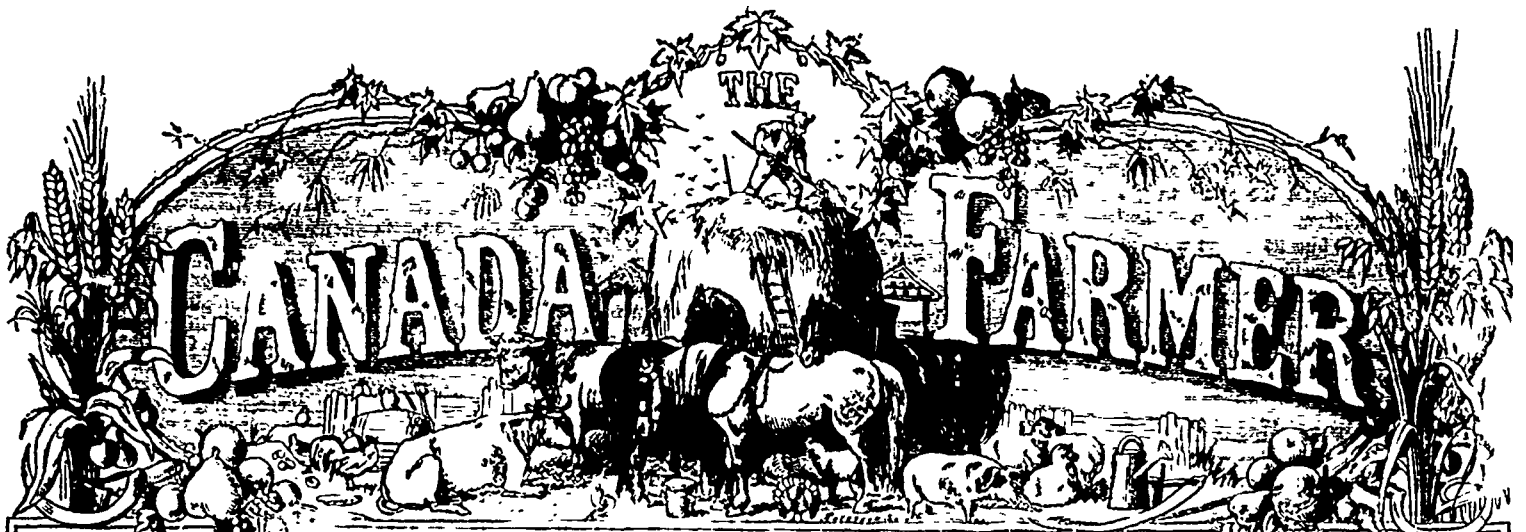
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## The Field.

### Familiar Talks on Agricultural Principles.

#### VARIETIES OF SOIL.

The most careless observer cannot but have observed a great difference in the nature of soils. In one place after a shower, the dirt becomes very sticky and soon clogs the shoes, making it very unpleasant to walk about. In another place, a shower of rain sinks at once into the earth, and leaves only a look of moisture on the surface. Almost every one is familiar with the distinction between light and heavy soil,—or that between sand and clay. But there are peculiarities which do not strike casual observers, and these need to be understood in order to adapt a system of tillage to a particular soil. It is not however so easy as might be supposed, to classify soils in such a way as to comprehend all varieties, and make their characteristic features quite distinct and striking. They sometimes run into one another, so as to speak like the adjacent colours in the rainbow, and their qualities become mixed. As however the rainbow colours are easily distinguished at a short distance from the blending-point, so soils may be distinguished as one or other of the leading materials of which they are composed is found to preponderate. Soils vary in texture from coarse pebbly gravel or loose sand, to fine compact clay, and between these extremes there is ample scope for diversity. They not only differ in texture, but in some other characteristics, of which it is most important to take notice. Professor Johnston classifies soils according to their clayey or sandy proportions as follows:

1. *Pure Clay*; from which no sand can be extracted by washing.
2. *Strong Clay*, or brick clay; which contains from 5 to 25 per cent. of sand.
3. *Clay Loam*; which contains from 20 to 40 per cent. of sand.
4. *Loam*; which has from 40 to 70 per cent. of sand.
5. *Sandy Loam*; which has from 70 to 90 per cent. of sand.
6. *Light Sand*; which has less than 10 per cent. of clay.

This arrangement has some advantages, but it does not set forth all the varieties of soil in a way calculated to fix their distinctions in the popular mind, and perhaps for practical purposes, they cannot be more simply and comprehensively classed than under the following general heads:—SAND, GRAVEL, CLAY, CHALK, PEAT, ALLUVIAL, MARSH, and LOAM.

*Sandy Soils* have their origin in the disintegration or crumbling up of rocks, and they are white, grey, or black, according to the colour of the rocks whence

they were derived. The grains of sand consist chiefly of silica, and hence soils in which sand is the predominating ingredient, are called silicious.

*Gravelly soils* have also originated in the disintegration of rocks, but instead of the rocks having been crumbled into fine particles, they have been broken into small pieces, and these fragments have been tossed about and rubbed together by the action of water, until by mutual friction they have become smooth. Having been dispersed and carried about hither and thither by the action of tides and currents, gravel differs much in its qualities, being frequently mixed with various substances, organic remains, clay, loam, &c. There are rich gravels, and poor gravels, fertile gravels, and hungry gravels; their character being partly governed by the nature of the rocks of which they are composed, and partly by the substances mixed among them.

*Clay soils* consist very largely of alumina, one of the most abundant of the materials of which the earth's crust is composed, forming not less than one-fourth of its substance. In the formation of these soils, not only was mechanical agency exerted in the crumbling of rocks, but chemical combinations played an important part. Clay is a compound of silicic acid, alumina, and water. It also usually contains potash, soda, and lime. It forms a compact, fatty earth, soft to the touch, sticky in a moist state, and very hard when dry.

*Chalky soils* have been formed from rocks in which lime was abundant. There are very extensive chalk formations in the southeastern and eastern counties of England, the north of France, Germany, and the north of Europe. Calcareous soils, or those in which lime is a principal ingredient, are by no means uncommon.

*Peaty soils* consist of vegetable matter partially or wholly decayed. They are usually found in low, moist situations in which the mud washed by rains or streams has mixed with various vegetable substances, and through partial decomposition, a compact spongy mass has come to be formed.

*Alluvial soils* are formed by deposits of sand, loam, and gravel brought down by rivers. They are often very rich, being composed of a multitude of thin layers of mud, in which all sorts of fertilizing material is mixed. Sluggish rivers deposit these soils in the various valleys through which they flow, and near their junction with the sea. Fertile bottom lands have been formed in this way, and are capable of yielding immense crops, if properly managed.

*Marshy soils* are formed by the decay of animal and vegetable matter, but from their low situation they retain a large quantity of water. They are mines of fertility, but while full of moisture, their stores of wealth are useless.

*Loamy soils* contain a large proportion of decayed matter or *humus*. Woody fibre in a state of decay acquires a dark colour, and ultimately becomes mould. Loam contains a variety of ingredients, as

clay, sand, lime, in addition to humus. It is a loose, friable description of soil, easy of cultivation, and as to texture is the most desirable description of land for purposes of tillage.

Soils have the singular property of absorbing, retaining, and parting with the elements of fertility without materially altering their weight, bulk, or texture. They are fertile or barren, according as they abound, or are deficient in the organic and inorganic substances which enter into the composition of plants, and of which an account has been given in previous "Talks." From the fact that some of them have certain elements of fertility which are lacking in others, it is often promotive of improvement to mix one kind of soil with another. Thus clay improves a sandy soil, and sand improves a clay soil; muck or marshy earth improves loamy or sandy soil, and sand mixed with muck is beneficial. Special manures may also be applied in many cases to supply a lack of some article of plant food, which needs to be present to furnish the required nourishment to bring a profitable crop. A knowledge of the nature of soils is therefore very important. If I wish to raise a certain crop, it is very desirable for me to ascertain whether my land has the food in store upon which alone that crop can live and grow. By keeping land well manured with farm-yard dung, it is possible to provide a constant store of suitable food for all manner of crops. But by a judicious rotation, the same amount of manuring will go much farther, because one kind of plant will fatten where another will starve. It is not necessary that every farmer should be a skillful chemist in order to provide abundantly for the plants he grows. Attention to a few simple principles, will secure the result at which he aims without hard study or high scholarship.

### How to Make a Concentrated Manure.

By a little attention, a manure may be produced which will possess an equal degree of fertilizing power with guano, or other expensive substances, and at a much cheaper rate.

Proceed as follows:—Construct your stables in such a manner that the urine from the stock, and particularly from horses, shall be all emptied into a large reservoir in the barn-yard. Into this excavation, put all the weeds, waste vegetable matters, &c., of your fields or kitchens, throwing over each layer, as it is packed in, a thin coating of the following composition, viz. sal-ammoniac, one part; and lime, two parts. This is to be sprinkled on each layer of weeds, &c., of six or eight inches in thickness; and upon this, or upon each of these layers, is placed a thin layer of earth. After the reservoir is filled, sprinkle over the top layer, from time to time, a thin layer of plaster (sulphate of lime.) This will prevent the evaporation of the ammonia formed in the mass. Next, into the reservoir so filled, let all the urine from the stock

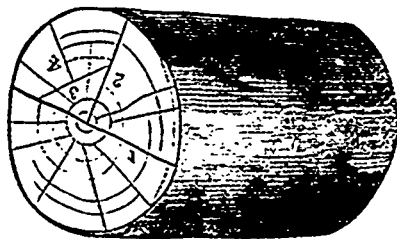
gradually drain, so that it runs over and entirely through the mass. From six months to one year may be necessary fully to incorporate the materials, but when ready, 1 cwt. of this manure, mixed with common barn yard manure, will contain more rich vegetable substance than the same weight of ordinary guano. Its effects may not be so evident as the guano in the first crop, but its action will be increasingly manifested in succeeding crops. As a general rule, small grains, such as wheat, rye, oats and barley, require a less concentrated manure than potatoes and garden vegetables generally; you can therefore vary by mixing with a light manure.

### How to Make Shingles.

SHINGLES, the most common material used for roofing in this country, are yearly becoming scarcer and costlier. The greater cost of labour, and the expense of long transportation from the now remote forests where the timber from which they are made in large quantities abounds, are the chief causes of these enhanced prices. One of the heaviest items in building at the present time, is the roofing material, and many an outbuilding is permitted to remain for years with a leaky roof, to the detriment of the frame and floors, and frequently to the damage by wet of crops stored therein, because the owner has not the means to spare from other uses, or shrinks from incurring the expense necessary to procure a new covering. Yet these same farmers may have in their forest, or can procure at small comparative cost of their neighbours, a sufficient amount of suitable timber to make all the shingles they require. A very few trees—sometimes a single one, or two at most—will furnish enough roofing for an ordinary barn or shed. And if one knows how, the shingles may be made by the farmer and his men in the shop during bad weather in the winter and spring and he will not feel the expense.

The varieties of timber adapted to making shingles are few. A wood is required that will split easy and true, and one also that when exposed to the weather on the building, will not warp from its place or "curl" up. The durability of the timber is a secondary consideration—shingles wear out more than they rot—and the varieties which would be least subject to these changes, might, for good reasons, not be at all suitable for roofing purposes. Pine is doubtless the best, but hemlock, cedar and chestnut are excellent. The trees should not have passed their prime when cut, but should be vigorous in growth and sound at the heart, so that the wood will not be "brash."

The first work to be done when we commence shingle making is to get out the bolts. Saw the trunk of the tree with a cross-cut saw into sections, each one of the length you intend to make the shingles. Sixteen inches is sufficient length for any easy splitting wood, and if it be tough or "brashy," twelve will do. The shorter the shingle, the less space you can lay to the weather, and the more time and nails it will take to make them into a roof. These sections of the trunk may then be set on end and split into bolts.



A SECTION FOR MAKING SHINGLE BOLTS.

The numbered lines in the engraving show the place and order in which the section should be split. No. 1 divides it through the centre, No. 2 quarters it; No. 3 takes off the heart block, and No. 4 finishes the shingle bolts. If the tree is large, however, so

that these bolts are wider than it is practicable to make the shingles, they can be further subdivided. The splitting may be done rapidly with the axe and a light maul, drawing the axe first carefully along the longest lines, and tapping it lightly with the maul, until the block is "checked," when a blow or two on the axe placed in the centre, will open it as desired. The bark should next be removed from the bolts, and they should be piled under cover so that the sun and wind will not "season check" them.

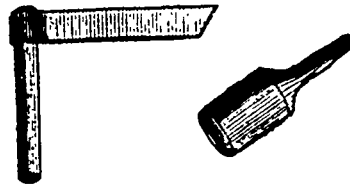
Having the bolts in the shop, next proceed to split them into rough shingles with the mallet and froe.



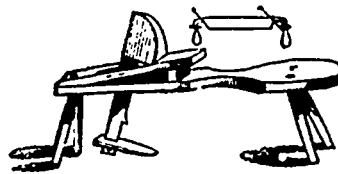
WHERE THE BOLT SHOULD BE SPLIT.

The engraving shows the proper way of splitting a bolt. First, split it at the line, A; this should take off a piece thick enough for four shingles. Next divide this piece through the centre as shown by the line B; the pieces are then each wide enough for two shingles. These are split through the middle, which finishes them. If you undertake to split off each shingle separately from the side of the bolt, they will almost invariably "run out," and the timber be wasted.

A large-sized shaving-knife, and a shaving-horse or bench, are necessary to shave and complete the shingles.



The froe is formed of a heavy steel blade, eight or ten inches long, and two wide, having a dull edge, and a handle a foot long, and projecting from one end of the blade at right angles with it. When the blade is driven into the bolt and partially splits it, the handle can be forced over to one side with the hand, or by a blow from the mallet, and the leverage force thus exerted, splits off the shingle. In this operation, skill and practice in the art come most into use. If the check or split runs out, the shingle will be too short, and therefore worthless, and the timber wasted. The operator must change his block, end for end, as circumstances require, and work carefully. Three-eighths of an inch is the proper thickness for the shingles.



SHAVING BENCH AND KNIFE.

Shave the but-end of the shingle first; this will require but a stroke or two, as it is already of the desired thickness if properly split. Next edge the shingle on the right or left hand side, as most convenient, taking off, when you meet it, all of the sap wood. Change ends of the shingle, shave both sides, thinning it gradually from the but-end to the top, straighten the other edge, and it is finished. A smart workman will split out and shave one thousand in a day.

The shingles should be packed away in tiers, lapping them as in the common bunches which we see for sale, and plank put on the top of the pile and weighted down, so as to keep them in proper shape until seasoned.—*Rural New Yorker.*

### On Saving Manure.

A correspondent of the *Agricultural Gazette* speaks thus of the three ways in which alone manure is perfectly saved, viz. :—

1st. The plan now general over the better-farmed counties, of ploughing in fresh manure on the autumn stubble, in preparation for the succeeding green crop. 2nd. The plan of liquefying the whole exuvio for distribution by steam power and iron pipage over the land. 3rd. The plan explained by Lord Kinnaird of having the manure made in covered court-yards. He testifies to the excellence of the third plan. The droppings and soiled litter of stall-fed cattle, and the same from the work-horse stable, are daily thrown into a walled and covered pit, care being taken that they are intermixed. A dozen feeding pigs are kept in the pit; any loose litter there may be found lying about together with road scrapings and odds and ends of animal and vegetable refuse, are thrown in; the pigs mix and incorporate the whole well together. From time to time liquid from the manure-tank is pumped in; and thus we have generally a deposit of a considerable quantity of well-made manure at hand, to supplement the dung heaps when they are exhausted.

These (the dung heaps) are managed on a system which is efficacious. The manure is carted out as the boxes become full, and thrown out of the carts into a heap of 5 feet in height by 12 feet broad. As we advance in this building we follow with a cover to the tops and sides of clayey mould. This cover is at first about 6 inches thick. The still open side, to which we are adding, admits a small degree of atmospheric action, which induces a gentle heat. When this has gone on for three or four days, we add three to six inches more clay or soil, over which we pour dilute urine. This keeps fermentation going on in the heap, the gases from which have to permeate the clay ere they can reach the atmosphere, and the now well-known absorption of ammonia by aluminous earth, prevents any waste. Indeed, with manure taken from covered boxes, there will not be any escape of vapour from the clayey covering till the dilute urine is plentifully supplied; even with the manure made in courts exposed to rain, there will be an escape of nothing but of watery vapour; a loss which is a gain, as there is less weight afterwards to cart on the ground.

In ten days after the heap has been made, it will, if it has been properly attended to as above, be fit for using in bean or potato drills, being soft and unctuous; it is cooked in its own steam. Should it not be required for a month or longer, all that is necessary is to give it a coat of six inches more clay or mould, and it stands ready to be cut up when wanted. I find this system to work exceedingly well. I am satisfied that from seventy loads of manure, carted out and covered with thirty loads of clay, I have a larger store of fertilizing elements than I should have from one hundred loads of similar manure carted out and trenched up in the old mode of ferment.

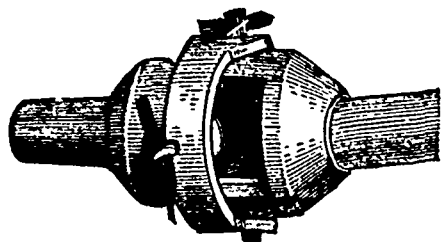
This conservative power of clayey loam over the fugitive products of the rotting process in the dung heap, is a point of great agricultural importance; and wherever there is any collection of fecal matter which it is desired at once to save and disinfect, this is the best material to mix with it for the purpose.

**HAY AND CORN SHRINKAGE BY DRYING.**—The *Genesee Farmer* says :—The loss upon hay weighed July 20th, when cured enough to put in the barn, and again February 20th has been ascertained to be 27½ per cent. So that hay at \$15 a ton in the field, is equal to \$20 and upward when weighed from the mow in winter. The weight of cobs in a bushel of corn in November, ascertained to be 19 lbs., was only 7½ lbs. in May. The cost of grinding a bushel dry cob—counting hauling, hauling, and miller's charge—is about 1c. a lb. Is the meal worth the money? This is a question long debated, and the general decision has been in the affirmative.

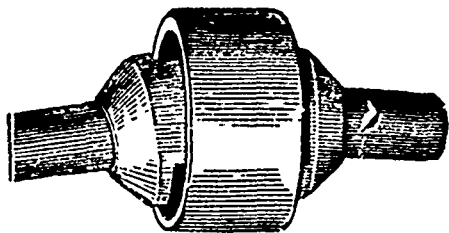
**SEEDING WITHOUT GRAIN.**—I saw in one of the late Farmers an article on seeding land without sowing grain. I will tell you what I did seven years ago last fall. After I dug the potatoes—in October I think it was I smoothed the surface over with my hoe on a few rods of ground, drew the tops away, sowed timothy seed and raked it in. It came up in the fall, and the next summer I cut a large swath from it. I could see that it was better than where I had stocked with wheat, for a number of years. In the fall of 1864 I stocked another piece down, which also did well, and last fall I sowed a small piece where I had taken the oats off, a part of which I ploughed and a part I did not. It was on a loamy soil. Next spring I intend to sow a piece to timothy and clover, where I had corn last summer.—*New England Farmer.*

### Safety Cap for Covering the Joints of Connecting Rods.

We have much pleasure in giving the accompanying remarks and out a place in our columns. As our readers will readily see, the "Safety Cap" is a simple and efficient covering for the projecting bolts used in coupling tumbling rods, and from the exposure of which, accidents are frequently resulting. Our correspondent writes.—"The connection between the power and the separator of a threshing machine was formerly made by means of a belt passing around a jack or hand-wheel attached to the power, and also around a pulley of the separator. The objections to this were numerous. 1st. The belt being generally of leather, was liable to stretch in damp or wet weather, so that proper motion could not be kept up. 2nd. High winds would throw it off the hand-wheel. 3rd. Trouble of changing its length to suit different barns. 4th. The person driving the teams could not see the separator. 5th. When sufficiently tight to prevent slipping, it created too much friction on the bearings, &c. Now, to avoid all these difficulties, the present system of connection by iron rods was adopted. Such rods are fastened together by what is known as the 'universal coupling.' (See Fig. 1) It will be seen the bolts of the joint project



beyond the outside surface of the coupling ring, thus presenting a very dangerous part for persons to run against, as these rods or shafts revolve with considerable velocity, and are always in exposed positions in the barns, where persons employed about the machine, or are led there by curiosity, are constantly in danger of having their clothes caught by these projecting bolts, and whirled round at the risk of life and limb. There are few machines that have worked for any length of time but have produced some calamity by this means. It is said that there are more accidents with threshing machines, in proportion to the number of persons employed about them, than any other machinery in use, and by far the greatest number, perhaps nine in every ten, occur as stated above. It is therefore strange that machinists have not, ere this, instituted some means of covering such joints; but it is pleasing to be able to announce to the readers of THE CANADA FARMER that there is now a means of making the dangerous part secure, as seen in Fig. 2. The joint represented by this cut,



be it remembered, is the same as Fig. 1, only it is covered with what is known as Shaver's Patent Safety Cap, which, when it is brought into universal use, will yearly prevent much suffering and loss of life. It is to be hoped that the various manufacturers throughout the country will use all lawful endeavours to bring this new, useful, and thoroughly tested invention into general use as soon as possible."

"LOOSEN A NUT RUSTED TIGHT.—by holding a hammer or something heavy one side, then placing a cold chisel as you would to cut the nut through to the bolt; give a few light taps on the chisel, which will expand and loosen the nut and seldom injure it." So says "P. G." of Peekskill, N. Y.

### Unleached Ashes as a Manure.

UNLEACHED ashes, in my humble opinion, are of far more value than many people imagine. I have used ashes as a manure every year since I commenced farming, and so satisfied am I of their fertilizing value, that I would not sell a bushel for twice or thrice the price paid for them at the asheries. I will give a little of my experience in the use of them as a fertilizer, as the best I can say in their favor. The greatest increase caused by the use of them that I have known, by actual measure, was on potatoes, used as a top-dressing in the year 1816. After dressing my corn with ashes that year, I had one bushel left, which I put on eight rows of potatoes, which yielded, at digging time, one bushel more to the row than any other rows in the field. It was a sod land, turned over in the spring and planted without manure of any kind. I have no doubt that the one bushel of ashes increased my crop of potatoes eight bushels. The rows were about fourteen rods long.

For corn, I think ashes and plaster, mixed at the rate of two parts of ashes and one of plaster, and a small handful of the mixture put into each hill, is the best way to use them. This mixture, I prefer to either alone or both, used as a top-dressing. I think it has made one-half difference in the value of a piece of corn, judging from one row left without the ashes and plaster, not from actual measurement. It was on ground without manure of any other kind. Ashes alone, as a top-dressing, are very beneficial to corn. After it has come up, I find where I have used it so, the stalks are larger and taller, the ears longer and better filled out, and the corn sounder and some earlier.

On grass, such as meadow, if it has run out, so that it yields but light crops, a dressing of ashes, fifteen or twenty bushels to the acre, has increased the crop of hay two, three, or even four-fold, and, for several years after, good crops of grass have been obtained.

I have never used ashes on wet land, nor with any other manure except plaster.—I. RANDALL, in Wisconsin Farmer.

VALUE OF MUCK AS A FERTILIZER.—I have seen remarkable results from the application of muck direct from its swamp bed, without any admixture with stable manure or anything else than the soil on which it was placed. I once made an application of this kind on land prepared for wheat, and the effect was the same as is often seen on lands where manure from the barn-yard has been deposited in heaps. The same vigorous growth was as apparent from the muck as from the barn-yard manure.

### Stock Department.

#### The Shorthorns Eighty years Back.

WHAT the earlier shorthorns were, the shorthorns we mean of the last twenty years of the eighteenth century, for not before then had shorthorn breeding taken the form of a systematic pursuit, we have now no accurate means of determining. There is no possibility of comparing them with the shorthorns of the present day; for weight, of which we have many records, and bad pictures, unfortunately too numerous, are but imperfect criterions. Not till something like Tennyson's Dream of Fair Women takes place with regard to shorthorns, and the most celebrated animals of the last eighty years pass before us in a chronological line and order, can the question be satisfactorily settled. Then, at a glance, the truth would be flashed upon us. We should be able to compare reputation with appearance, and separate what was due to merit from what was due to fame. Failing such an agreeable mode of gaining information, one thing, however, seems to be certain, that a very remarkable difference exists between the breeders of those days and the breeders of these. In those days, they belonged chiefly to a class of practical agriculturists, who sought the improvement of their cattle in the natural way of ordinary business; in these days, they are divided, not very equally, between the same class of men and men to whom breeding is a pastime and a luxury. It is notorious that what may be called the element of fashion has been especially cultivated by the latter class; and it is scarcely less notorious that the former class has felt its influence. We have reason therefore to infer a difference, consisting in some-

thing more than a reduction of bone and offal, between the present specimens of the shorthorn race and those which belonged to a period antecedently contiguous to that in which the Collings and their contemporaries lived and laboured. One who can look back thirty years will see a difference even between the animals of that day and this—in some respects for the better, in others for the worse—though he may have failed at the time of their occurrence to observe the particular circumstances which produced it; for changes, plain enough when viewed from a distant height, are often imperceptible when we stand in the midst of them. The subject, in itself most interesting, may be illustrated by a passage in one of the works of Dr. Trench, Archbishop of Dublin. A thoughtful reader will need no instruction as to the analogy which gives the following extract from "English, Past and Present," its suitability in this place. Apart from that suitability, it has great intrinsic value. "How few aged persons, let them retain the fullest possession of their faculties, are conscious of any difference between the spoken language of their early youth, and that of their old age; that words, and ways of using words, are obsolete now, which were usual then; that many words are current now which had no existence at that time. And yet it is certain that so it must be. A man may fairly be supposed to remember clearly and well for sixty years back, and it needs less than five of these sixties to bring us to the period of Spenser, and not more than eight to set us in the time of Chaucer and Wiclif. How great a change, what vast modifications in our language, within eight memories. No one, contemplating this whole term, will deny the immensity of the change. For all this, we may be tolerably sure, that had it been possible to interrogate a series of eight persons, such as together had filled up this time, intelligent men, but men whose attention had not been especially roused to this subject, each in his turn would have denied that there had been any change worth speaking of, perhaps any change at all, during his lifetime. And yet, having regard to the multitude of words which have fallen into disuse during these four or five hundred years, we are sure that there must have been some lives in this chain which saw those words in use at their commencement, and out of use before their close. And so, too, of the multitude of words which have sprung up in this period, some, nay, a vast number, must have come into being within the limits of each of these lives. It cannot then be superfluous to direct attention to that which is actually going forward in our language. It is indeed that which of all is most likely to be unobserved by us."

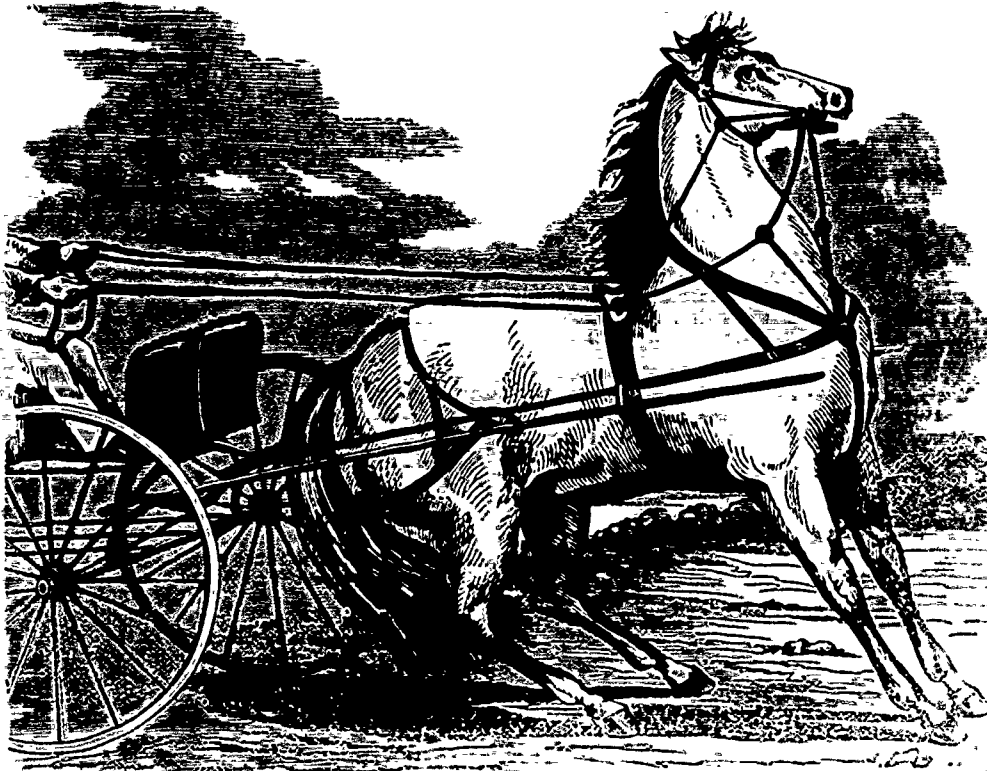
#### Cleanliness of Swine.

In one respect, farmers commonly show the worst of their management in fattening hogs. These animals appreciate and enjoy cleanliness, yet their owners make them live in dirt, and then charge them with a natural fondness for filth. This is oppression and slander combined. Every person familiar with their habits, knows that when clean straw beds and other comforts are given them, they are scrupulous to keep them clean. When shut up in a narrow pen, where they must eat, sleep, and live in one apartment, they cannot but be uncomfortable; and such a condition greatly retards their thriving. A "hog pen" has become proverbially a repulsive place; this is the owner's fault, and should never be suffered. There is no reason why it should not be clean, and even attractive. We hear farmers who raise grain say that they have more straw than they can sometimes use, while at the same moment their hogs have not enough of it to make a dry and clean bed.

Animals can never thrive well unless kept clean. Every one knows that a well groomed horse is better than a neglected one, with a shabby coat. Nearly the same result has been found when this treatment is applied to swine. Let every manager lay down this rule, that a hog pen should never be distinguished by its odour twenty feet distant. The sleeping apartments should be separate, and kept perfectly clean and dry. The other portion should be daily cleaned out, and the manure at once mixed with muck, loam, coal ashes, &c., to make compost and destroy the odour, which is as injurious to the health of swine to breathe as it is to human beings. It is not necessary that a piggery should cost five hundred dollars that it may be kept in splendid order; a cheap and simple structure may be subjected to the most perfect system of cleanliness. The satisfaction it will afford the owner, the comfort to the occupant, and the profits to the purse, will be a three fold compensation.

**Bridle and Reins for Runaway Horses.**

Various contrivances have been adopted by horse-men, in modern times, to check runaway horses, and to control vicious or kicking ones. Some of these expedients were moderately satisfactory, while others were so clumsy that they irritated the animal unnecessarily. The last issue of the *American Agriculturist* contains an illustration and description of a highly useful and convenient invention for restraining impetuous and hard-mouthed horses, which we have here copied for the benefit of our readers. The in-



**Tape-Worm in Pigs.**

At a recent meeting of the Ulster Chemico-Agricultural Society, the following remarks on the existence of worms in pork, are reported to have fallen from Professor Hodges :

"My attention has been directed by an eminent Irish naturalist, to the importance of directing the attention of the members of the society to the danger which may result from the extension to this country of some of those terrible forms of disease which for several years have been known to follow the use of the flesh of diseased pigs. It is not unlikely that

sites appear in the form of minute void capsules, which to the eye look like white specks on the flesh; when examined by a magnifying glass, each of these specks is found to consist of a little case, in the centre of which a minute worm, about the one-thirtieth of an inch in length, is coiled up. When the flesh containing the trichina is introduced into the stomach and intestines, the worms leave the capsules, and produce young, which perforate the intestines, and make their way to the muscles, producing violent irritation, fever, purging, and paralysis."

In reply to the Chairman, the Professor stated that he had not detected the disease in any of the pigs he had examined in Belfast. "Professor Owen had detected it in subjects dissected in England, showing that the disease existed in the country. In Berlin, the Government rendered it indispensable that there should be a careful examination made of all pork."

In reply to an enquiry as to the cause of the great prevalence of the disease in Germany, as compared with Britain, the Professor stated: "It must be in the feeding. Unclean feeding seems to be the frequent cause of this disease being increased."

**REMEDY FOR SLABBERING.**—E. L. Breuvoort, Elkhart Co., Ind., writes to the *Agriculturist*:—"Please give me a remedy for slabbers in horses, induced by eating white clover, which, in this region, kills out all other kinds of pasture." Let each horse have four quarts of wheat bran twice daily. As soon as the white clover appears, plough the ground, raise two or three crops of grain, and seed with Timothy or Kentucky blue grass, and Orchard grass seed. Horses never slabber when fed with these grasses.

**SHEEP IN OHIO.**—The *Ohio Farmer* says:—"The sheep are doing badly this winter, as we learn by the farmers from various quarters, in consequence of the openness of the winter, which gives them access to the ground for foraging. It would seem that no good flock-master would allow his sheep to go at large and spoil their appetite for solid food, when he must know that such a course will inevitably result in their debility and consequent serious damage. Better confine the sheep to regular winter feed, and avoid this loss."

**POINTS OF A BREEDING SOW.**—S. Lewis of Boone County, Illinois, gives in the *Prairie Farmer* his ideas upon the subjects above:—"In the first place she should be square built, have a short nose and short ears, short legs and back, with latter hollow or bent. Shoulders should be heavy and deep. Never let her raise pigs until she is a year old, and never but one litter the first year. Then if she proves a good milker, let her raise two litters per year. I speak of her being a good milker. This is as essential in a breeding sow as in a good mare. Such an animal will raise better pigs, and, of course, her progeny will be better hogs for market. I find that hasty pudding and milk for the supper and breakfast, and corn for dinner, constitute a very good diet for the breeding sow.—A great many farmers have fallen into an error in not allowing plenty of straw for a bed. Many build a warm pen in order to avoid giving her much straw. Let her run to a straw stack and she will "build" a nest to suit herself. If this is not convenient, she should have plenty of straw in the pen. Attend to these matters, and I will warrant no trouble in raising pigs in the coldest of weather."

**MEASUREMENTS OF PRIZE CATTLE.**—The *Country Gentleman* contains the following table which gives the girth and length of some of the first prize animals at the recent shows of fat stock at Birmingham and London. Out of nearly eighty measurements published, the largest of all are those of the 1st prize Hereford steer, 5 years old—9 ft. 5 in. in girth, and 5 ft. 6 in. in length :

BREED.	LONDON.			BIRMINGHAM.		
	Age.	Girth	Le'th.	Age.	Girth	Le'th.
DEVONS—STEERS.	Y M	ft. in.	ft. in.	Y M	ft. in.	ft. in.
	2 5	7 8	4 9	2 7	7 1	4 6
HELTERS.	2 10	8 2	4 7	4 7	7 7	4 8
	4 7	8 6	5 4	4 7	7 7	4 8
SMOKE-HORN—STEERS.	3 9	7 4	4 8	3 1	7 8	4 8
	2 4	7 4	4 7	2 7	7 2	4 4
HELTERS.	3 2	8 10	5 0	3 11	8 10	5 1
	5 2	9 5	5 6	.....	.....	.....
COWS.	3 1	8 2	4 7	.....	.....	.....
	3 3	7 10	5 1	5 2	8 6	5 0
SMOKE-HORN—STEERS.	2 4	8 1	4 10	2 11	8 5	5 2
	2 10	8 8	5 3	2 11	8 5	5 2
HELTERS.	3 5	8 11	5 3	.....	.....	.....
	3 3	8 5	5 2	3 8	7 10	5 2
COWS.	4 9	8 2	5 2	7 8	8 4	4 7

ventor is Dr. S. B. Hartman, of Millersville, Lancaster Co., Pennsylvania, and the accompanying illustration shows in a very clear manner the effect of these reins upon a horse. "The Lead," say our contemporaries, is thrown up, the eyes lifted so that he cannot see the ground, the weight of the body thrown completely off the fore feet, so that kicking is out of the question, and the animal being thrown upon its haunches, of course must stop; he cannot even back, for the Doctor says, and though we have not tried this, it seems true, that a horse may be made to sit down squarely on his rump. The bit is a simple snaffle, or plain bar bit, attached to the headstall in such a way that the cheek strap (not buckled into the bit ring, but running through it), may be shortened up almost indefinitely by a pull upon the safety reins. These are attached to the cheek strap, passed up through the bearing or check rein swivels (the rein being removed) and joining the direct reins at the saddle or harness rings from this point they pass back to the hands, through the centre of the round driving reins, and terminate in loops and straps. While driving with two hands, the loops may be held by passing the fore fingers loosely through them, and when the driver wishes to use only one hand to drive, the straps of the safety reins hang down in front of his knuckles, and may be seized by the whip-hand at any instant that he wishes to apply their latent power. The safety reins are not borne upon at all in ordinary driving. We have tried them somewhat ourselves, and have placed them in the hands of several experienced horse-men, who agree in their good opinion of them. 'Atlanta' is a rather famous-trotting mare owned in this neighbourhood, so hard-mouthed as to be entirely unmanageable with common reins and bits—with the safety bridle she was driven not only with safety, but with ease, and in her horse way owned 'beat' for the first time in her life. In Lancaster county, where the reins have been in use a year or two, we learn that they are regarded with high favour, ladies and children driving horses considered entirely unsafe before they were applied."

many cases of disease and of death, attended with symptoms not unlike those which are produced by some of the irritant poisons, may have resulted from the use of unsound pork, and it may, therefore, be useful to make a few observations on the subject to the members of the society. The statement of Mr. Gamgee, the well-known veterinary professor, that there are between 40,000 and 50,000 measy pigs in Ireland, and that for every measy pig in the kingdom there is at least one human being affected with tape-worm, is sufficient to shew the extent to which the health of the people may be influenced by diseased food. The measy condition of pork is known to depend upon the existence in the flesh of the animal of an internal parasite, which is the larva of the tape-worm, and becomes developed into the perfect animal when taken into the human stomach in food. This parasite is termed *Cysticercus cellulosus*, and is found not to be readily killed, except by thorough cooking. It resists even smoking and salting; and when the smoked ham is eaten, as in many parts of the Continent, and in some districts in England, its use produces vomiting, purging, and fainting. Another even worse condition of the flesh of the pig is that which has recently attracted the attention of the Governments of France and Germany, and which is found to result from the introduction into the human body of a minute, thread-like worm, the *Trichina spiralis*, which is more frequently found in pork than in any other kind of flesh, and, like the *cysticercus*, this parasite is found out not to be destroyed except at a temperature equal to that of boiling water. In Germany, where sausages uncooked are so much eaten, the consequences which have, in some localities, followed their use have excited great alarm. In 1863, at Heltstadt, on the Hartz mountains, of 103 persons who partook of smoked sausages from a pig affected with the *trichina*, 83 died, and the health of the survivors was seriously injured. The sausages had been fried, yet the vitality of the parasites had not been destroyed. According to Professor Virchow, of Berlin, the human organism is most favourable to the development of this parasite. When taken into the stomach, it propagates to an almost incredible extent, and it has been estimated that, in three or four days, half-a-pound of trichinous meat taken into the stomach may produce thirty millions of worms. The para-

## Canadian Natural History.

## The Canada Lynx.

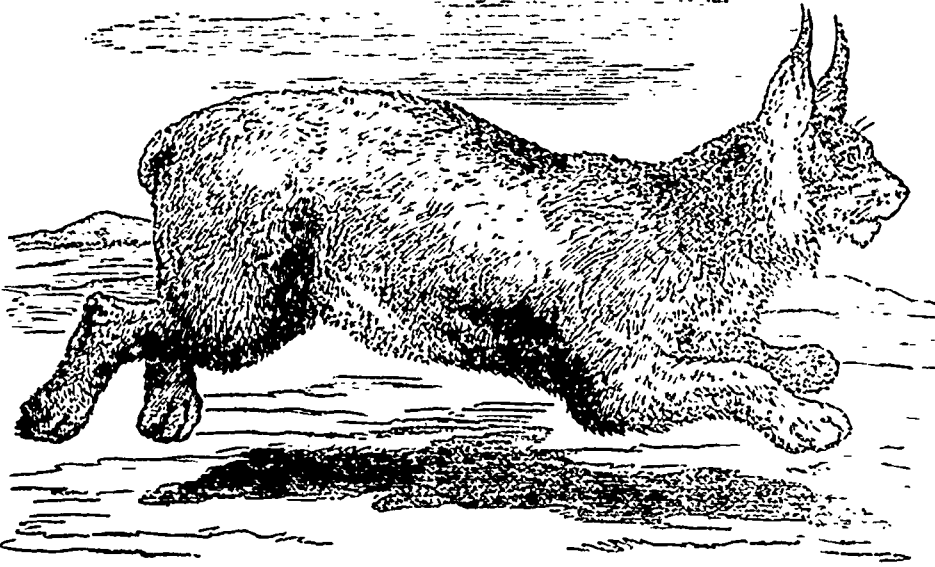
*(Lynx Canadensis Geoffr.)*

THE LYNX, by name, if not by sight, is familiar to all of us, as the type of quick-sightedness. The eyes of the Lynx and the ears of the "Blind Mole" are generally placed on a par with each other, as examples of especial acuteness of either sense. This animal is variously named the "Peesho," "Le Chat," and "Loup Cervier," by the French Canadians; and is about as large as a setter dog. The head is short, and the ears are erect and tufted. The body is about three feet long, and the tail five or six inches. The limbs are very powerful, and the thick, heavily made feet are furnished with strong white claws that are not seen unless the fur be put aside. A covering of dense fur protects the feet in the winter and the foot prints left in the snow by the animal, are about nine inches long, and are almost as large as those of a black bear. The Lynx possesses large eyes, an obtuse nose, ears with a narrow margin of black, and whiskers stiff and chiefly white. The hair of the animal is generally of a dark grey colour, flecked or besprinkled with black. "Large and indistinct patches of the fur are of a sensibly darker tint than the generality of its coat. Most of the hairs are white at their extremities, which will account for the apparent changes in colour, which will be seen even in the same species at different times. Along the back, and upon the elbow joint, these dark mottlings become more apparent. In some specimens, the fur takes a slight tinge of ruddy chestnut, and the limbs are darker than the rest of the body." It is therefore probable that the same individual undergoes considerable changes, both in the colour and the length of its fur, according to the time of year.

The Lynx lives in the deepest woods, rarely approaching the habitations of man, except when pressed with hunger, when it is wont to prowl about the pioneer's hut in search of lambs, pigs, and poultry. It is most abundant in the arctic regions, north of the great lakes, its thick fur enabling it to resist the greatest cold. It is a good swimmer, and an active climber, and frequently seizes its prey by pouncing upon it from an overhanging tree. At other times it crawls stealthily, like a cat—which in appearance and instincts it greatly resembles—within springing distance of its victim, and suddenly leaps upon it. When running at full speed, owing to its peculiar mode of leaping in successive bounds, with its back slightly arched, and all the feet touching the ground simultaneously, it presents the somewhat singular appearance shown in the accompanying life-like illustration. Although it is a powerful animal, it is said to be easily killed, by merely striking it a smart blow on the back with a light stick. It breeds once a year, having generally two young ones at a birth, the female hiding her offspring in hollow trees, logs, or caves, till they are large enough to follow her. Its flesh is eaten by the Indians, and occasionally by hungry trappers, and, though represented as devoid of flavour, is said to be agreeably tender. Its fur is prized for robes, muffs, collars, &c., and the animal is caught by means of a steel trap, which is baited with flesh.

It feeds principally on grouse and birds of similar size, squirrels, rabbits, and other northern rodents, and when hard pressed with hunger will attack as large an animal as a deer.

**CHILD ATTACKED BY A RAT.**—The other night, in this city, a baby, which was lying with its parents, suddenly began to scream violently, and they, being awoke by its cries and fearing that something was wrong, obtained a light, and found that the child's head and face were bloody, the former having been



bitten severely by something. Nothing, however, was found, but during the ensuing afternoon whilst the wife was making up the bed, a rat leaped forth from between the feather bed and the straw mattress, thus revealing the creature that during the hours of darkness had attacked the infant. A dog was then brought into the room. It strove to catch the rat, but, in so doing, drove it into a window, where it turned at bay, and so bit the dog that the latter would not face it again. Some men at length killed the rat, which, had it not been destroyed, might have yet been fatal to the infant, should it have afterwards been left to sleep alone. Parents, whose houses are infested with these vermin, as so many are in Montreal, cannot be too careful in looking after them at this season, when cold and hunger are apt to make them fierce and drive them in-doors. Rat-catching would be a good business here,—*Montreal Witness.*

**ARCHITECTURE OF ANIMAL LIFE.**—The architecture of animal life is infinitely more marvellous, and oftentimes more beautiful, than the most gorgeous edifices reared by the hand of man. We look with astonishment—if we think while we look—on the temples and palaces and gigantic constructions of every kind, which, his skill, his intelligence, and his industry have raised; on the wide-swelling dome, be it of stone or glass; on the graceful, tapering spire, boldly shooting upwards into the sky; on clustering columns; on ponderous arches, whose shoulders might sustain a mountain. We see stone compactly and symmetrically fitted to stone, each of its appointed size and in its appointed place, while the chisel of the sculptor enriches them with cunning workmanship, and transforms the shapeless blocks into elegant proportions, and puts on them the undying impress of beauty: weaving out of stone and marble garlands of flowers, and types of all things lovely, such as those with which the Deity himself has adorned the great temple of nature—the visible world of His own creation. All these are the works of reasoning, educated man, who builds according to rules and laws which science teaches. But if we pass from them to the structures of the lower creation—the "homes" made "with-

out hands"—we see far more reason for wonder in what instinct alone has taught the bee and the ant, the reptile and the bird, to form, each for its own purposes of safety and domestic comfort.—*Art Journal.*

**UNPLEASANT COMPANIONS.**—Scorpions, centipedes, and poisonous spiders also, were not unfrequently brought into the ship with the wood, and occasionally found their way into our beds; but in every instance we were fortunate enough to discover and destroy them before they did any harm. Naval officers on this coast report that when scorpions and centipedes remain a few weeks after being taken on board in a similar manner, their poison loses nearly all its virulence; but this we did not verify. Snakes sometimes came in with the wood, but oftener floated down the river to us climbing on board with ease by the chain-cable, and some poisonous ones were caught in the cable. A green snake lived with us several weeks, concealing himself behind the casing of the deckhouse in the day-time. To be aroused in the dark by five feet of cold green snake gliding over one's face is rather unpleasant, however rapid the movement may be. Myriads of two varieties of

cockroaches infested the vessel: they not only ate round the toes of our nails, but even devoured and defiled our food, flannel, and boots. Vain were all our efforts to extirpate these destructive pests; if you kill one, say the sailors, a hundred come down to his funeral! In the work of Commodore Owen it is stated that cockroaches pounded into a paste form a powerful carnivore. This has not been confirmed; but when monkeys are fed on them they are sure to become so lean, as to suggest the idea that for fat people a course of cockroach might be as efficacious as a course of fasting.—*Narrative of an Expedition to the Zambesi and its Tributaries;* by David and Charles Livingstone.

**BIRDS PREFER TO FLY AGAINST THE WIND.**—However much it may be in opposition to received opinions, it appears to me that birds prefer to fly against the wind, and to dive against the stream. I am well aware, dear reader, how often you have read in "works of authority" that the very reverse of this is the case; but I ask you just for once to lay aside works of authority, and to observe for yourself. Every spring we have a long succession of biting winds from the north-east, and my experience is that all our migrants select those biting winds for their passage from the shores of France to the shores of England, and fly in the very eye of the wind; when the current is abast, the wind or water, it matters not which, gets under a bird's feathers in the most aggravating manner, and upsets his equilibrium and equanimity at the same time. This certainly is the case with quails; they almost invariably start on their passage of the Mediterranean with a head-wind, and if it chops round and blows fresh from the south-west, they are drowned by thousands, and their dead bodies are washed ashore for weeks afterwards.—*Professor Newman, in the Field.*

**BEARS AT OTTAWA.**—We find the following in the Ottawa correspondence of the *Globe*, of March 27:—"Not far from this city, lately, two men, on cutting down a large pine tree, found a hollow in it. When it fell, a large she-bear put her head out of the hollow, and was killed by a stroke of the axe. Subsequently, two fine cubs were taken out of the log."

## The Dairy.

### Save the Heifer Calves.

For some time past there has been a regular stampede of cattle from Canada to the United States. Roughly to parody, Dean Swift's well-known rabbit-grace:—

Hosts of cattle we have sold,  
Cattle young and cattle old,  
Cattle tender, cattle tough,  
Haven't the Yankees had enough?

They have had more than enough for our good, of one kind, namely, *milk cows*. The expansion of the cheese business in the United States has created a brisk demand for dairy stock, and anything in the shape of a cow has been quickly bought up. Considering the prices that have been offered, it is perhaps no wonder that our farmers have been tempted to sell more than the country could well spare. The prospect is that cows will be scarce and high. Slowly but surely the cheese factory system is making its way among us. We are a conservative people, and rather suspicious of innovations. But once convinced that a thing is really good, we take hold of it very tenaciously. There is little doubt that cheese factories will spring up in all favourable localities. In view then of the present depleted stock of milk cows, and the demand for them which the future is almost sure to bring, we earnestly advise farmers, and every body who keeps a cow, to *save the heifer calves*. Do not let the butcher have a single one. It will pay to raise them. The country needs them. To butcher one the present season, ought to be regarded as evidence of lunacy, or else as an offence worthy of indictment.

### Calving Cows.

We find the following suggestive communication in a recent issue of the *Mark Lane Express*.

"At this period of the year, when complaints are universal, of cows slipping their calves, it may not be destitute of interest to many of your readers to hear the experience of a practical man on the subject. When this takes place in a herd to a serious extent, it is most intensely annoying and grievously disappointing, as it almost totally upsets the arrangements that have been made for the coming season. If the herd is a highly-bred one, kept for their value as breeders, the milk being a merely secondary consideration, such an occurrence taking place to any extent is not only vexatious, but amounts to a very heavy pecuniary loss. The reasons assigned for this taking place are various, some assigning as the cause the presence of a noxious weed in the pastures, others, blows from their comrades while on the pastures, or, where the number is large, squeezing through the doors of the cow-sheds, while being forced, perhaps, rather hurriedly by the attendants. When one or two cows calve prematurely, there is a reason at once at hand for any number that may follow, and that is they do so through the secret, undefinable, and subtle agency of sympathy. Some years ago we were sadly annoyed by this tendency in a herd of between forty and fifty, some seasons as many as twelve of the very best cows losing their calves.

Every imaginable plan was tried to obtain an alleviation of the annoyance, and prevent its spreading. Among the most prominent, the doors were widened, three doors being put on single-rowed stall-holding 22 beasts, each capable of admitting a cart or wagon. Tar was placed on the top of the wall all along the house, the noses of the animals being frequently rubbed with it. Fires were kindled, on which the bedding was burnt, tar being poured over the flame, so that the air of the stalls should become impregnated therewith. Last of all, the herd was divided, and small lots put in different enclosures; but all to no purpose, the calves were lost in varying numbers year after year. Feeding largely on turnips and mangolds in a raw state, it struck us that this might have more to do with the unfortunate state of affairs than we were supposing. We determined to give it a trial, and prove whether the cause really lay in the feeding or not. Instead of in the morning giving turnips as the first feed, we gave the hay first; and when a considerable portion had been eaten, placed the turnips or mangolds before them. This has been productive of the happiest effects, as in

some seasons we have not a single instance of a cow aborting; in others, two, and perhaps three; never more. This season we have not as yet had a single case, and expect none, the cows for the most part being past the dangerous period.

Upon reflection, it is quite natural to suppose that a mass of cold turnips taken into the stomach of the animal, creating a sudden chill, would be highly injurious, and that such a result as abortion would very frequently follow.

**FATTENING CALVES.**—A sensible, practical farmer told us the other day that he had often noticed that calves would thrive better on milk that was not rich in butter, than on what was commonly called very rich milk. That is a fact in accordance with what we recently stated, that the nutritive elements of milk reside chiefly in the casein. If you have a cow that gives particularly rich milk, and one that gives a quality poorer in butter, it is better, in every way, to feed the calf on the milk of the latter. The calf will thrive better and you'll get more butter from the milk of the first cow.—*Massachusetts Ploughman*

**CUTTING CHEESE ON THE COUNTER.**—One of the objections against large sized cheeses is that there is waste in cutting on the counter. In taking out a few pounds after the usual manner of cutting, each piece has a sharp angle. A portion of this will break into crumbs, and the whole sharp angle is not of the right shape to be cut up so as to make a nice appearance for the table. This defect has always been noticed by consumers, and especially by retailers, who cut and sell small quantities of cheese to customers. It is very apparent when it is attempted to cut a few pounds from a large cheese you then have a long thin wedge, the greater portion of which is liable to be broken up into crumbs before it reaches the home of the purchaser, and of course is not in desirable condition for the table. In England this is a serious objection to large cheeses, and hence the demand for those of smaller size, that may be quartered, and then subdivided in an opposite direction.

Mr H FARRINGTON, of Norwich, suggests a method of cutting cheese on the counter to obviate this difficulty, and which he has practiced the past season with entire success. It is very simple and may be of advantage to retail dealers and consumers to have adopted. The plan consists in cutting into the cheese half way to the centre, then at this point running the knife in an opposite direction partly across the cheese, and then cutting from this point to the outside, taking out about an eighth of the outer portion of the cheese. You thus have a block of cheese, free from the objectionable angle, which may be subdivided as required. The same rule is to be observed in taking out the other sections, and when the whole outer portion has been removed, there is left the centre piece in an octagon shape, which can be cut into pieces without loss. The suggestion is practical, and if adopted by grocers, will give good satisfaction to customers.—*Ec.*

## Poultry Yard.

### Characteristics of Buff Cochins.

Mr. EDWARD HEWITT, of Sparkbrook, so well known as one of the most experienced judges of the day, has published in the last number of "The Poultry Book" the following admirable description of those characteristics of Buff Cochins that insure success in a show pen. To those exhibitors whose birds frequently come under the scrutinising glance of this gentleman, it must be very interesting to read his exact opinion as to what constitutes perfection in this breed, and therefore we have no hesitation in quoting it for their benefit, especially as the characters are so accurately given that exception cannot be taken to them:

"In size and weight the larger the better, if without coarseness. Sometimes the cocks attain the weight of thirteen pounds and a half; but from eleven to twelve pounds are good average birds. The hens weigh from eight to ten pounds; if they continue healthy and are well fed, they generally increase in weight until their third year.

The carriage and form of the cock should be fine, noble, and majestic, the breast very broad, forming a straight line from the crop to the thighs; the back short and wide; the tail only very slightly raised, compared with that of other fowls; the wings exceedingly short, and held tightly to the sides; the

legs, thighs, and saddle unusually large in proportion to the rest of the body. The head small, and carried well up. The carriage of the hen similar to that of the cock in general character, but the head is carried much lower, and the neatness and fine expression of face is extremely pleasing in really high-bred specimens.

The plumage in the cock is very soft, owl-like, and exceedingly downy, giving a peculiar softness to the general appearance. Cochins possess a great bulk of feathers, each one being wider across than in other fowls. In the hen the peculiar softness of the plumage is more marked even than in the cock, especially on the thighs and saddle.

The neck hackle of the cock is extremely full, and of a rich but light bay colour, spreading over the base of the wings. It is desirable that there should not be any markings whatever on the hackles. The hackle in the hen should be a distinct clear buff, without any markings whatever; but a slightly pencilled hackle is far less objectionable than a clouded one.

The saddle of the cock should be very full and free from pencillings of any kind. Cockerels of the year will sometimes moult out perfectly clear at two years old, though imperfect as chickens. The saddle of the hen should be without any markings whatever; the colour being a clear buff from the roots to the tip of the feathers.

The tail of the cock is very short and compact, soft, and free from hard stiff feathers; if the principal feathers are bronzed in colour, it adds much to the appearance of the bird, but a black tail is also admissible. The tail coverts are peculiarly brilliant, flexible, and fine. The hen's tail is much less conspicuous than that of the male; buff tails the most approved, although the colour generally approaches to black in the larger feathers. Wry tails, in either sex, are an abomination.

The breast in both cock and hen should be clear buff, well furnished with feathers, each one of which is prone to run somewhat lighter in colour towards the tip; but the more pure the self-colour throughout the better.

The upper wing coverts and shoulder in the cock should be clear, but a little darker than the body generally; in the hen, the same colour as the body. The lower wing coverts of the cock approach to a clear deep-coloured bay. If the wings are light in their first year, the birds are apt to become grizzled with white after a few moultings, which is a great imperfection. A clear dark-winged cock always produces the best-coloured chickens. The lower wing coverts in the hen are of the same colour as the body.

Both primary and secondary quills should be clear buff, without admixture of other colours.

The thighs of the cock are stronger than those of any other variety; exceedingly heavy in the feathering; all the feathers sit very loosely, and are peculiarly downy, forming in part what is commonly called the fluff. The shafts of these feathers should be weak and flexible, contrasting with the firm stiff feathers producing the "Falcon-hook," which is to be regarded as a defect. In the hen the stiffness of the thighs is far more conspicuous than in the cocks.

The legs and feet of both sexes should be perfectly yellow, well-feathered down the outside of the legs and on the outer and middle toes; the feathers should be the same self-colour as the body, without any admixture of black or grey whatever. In very highly conditioned birds, the inside of the legs and webs of the feet assume a decidedly pinky hue. If short upon the legs, the stronger in the bone the better.

The comb in both cock and hen should be flat, evenly serrated, and stand perfectly erect on the head, without any inclination to either side; any curvature whatever is a serious defect. The wattles of the cock should be thin, fine, without coarseness, and perfectly florid in colour; those of the hen should be thin, fine, and delicate.

The ear-lobes of both cock and hen must be exceedingly well developed, very long, thin, and fine; they frequently hang as low or even lower than the wattles; any disposition to white is a decided defect, as they should be entirely florid in colour, and perfectly devoid of coarseness. In the hens the same traits of character exist, but on a smaller scale.

The eye of the cock should be yellow-ochre coloured; the bill also perfectly yellow. In the hen, the eyes are often a little darker than those of the cock, and are exceedingly expressive, mild, and docile in appearance.

This description is supplemented by a valuable essay by Mr. Hewitt on the general habits of Cochins, their management, and importance as profitable fowls. The number also contains articles on White Cochins, by Mr. Zarhorst; on the structure and development of the egg, and the management of chickens, by the editor; along with two full-sized quarto coloured plates, and a very interesting engraving of the first Cochins introduced into this country in 1843.—*London Field.*

## The Apiary.

### Management of the Apiary for April.

BY J. H. THOMAS.

All stocks that have not been examined in March should be attended to now, and the hives given for that month fully carried out. As bees are now breeding quite extensively, they will require considerable honey. It will be necessary to feed all stocks that are not well supplied. Where moveable comb hives are used, combs containing honey may be taken from strong stocks that are well supplied, and given to weak ones. Upward ventilation should now be closed, and the entrance contracted so as to keep all the heat in the hive possible. Keep a good look out for robbers. Where moveable comb hives are used, examine and see if the queens are fertile, for oftentimes, either through old age or being chilled by severe cold, their fertility ceases, and they lay drone eggs only. Such queens are called 'Drone-laying Queens.' They may be readily known by their depositing drone eggs in worker cells, and that without any regularity, while fertile queens deposit their eggs in regular order, commencing at a point and nearly describing a circle, and when sealed the latter will present a regular, smooth surface. Drone laying queens should be destroyed, and replaced by a fertile one, or the bees given to another stock. For full particulars, see "Canadian Bee-Keepers' Guide." Old hives that are to be used should be well cleaned with boiling water and put in readiness. If hives are to be made, it should be attended to. Spare moments from other duties may now be well and profitably spent in attending to the apiary, and learning lessons of industry by watching the busy bee."

### Bee-Keeping in Wisconsin.

A CORRESPONDENT of the *Country Gentleman*, residing in Wisconsin, sends the following account to that paper, respecting bee matters:—"I can report but poor progress in bee-keeping this year—1865 will not very soon be forgotten by bee-keepers in this part of Wisconsin. There was the fullest blow of white clover the past summer I ever saw in the State—from June 1st to 20th of September,—but the bees were lying idle, and from watching the few that were at work I could see there was no honey in the clover. If the season had been too wet, or we had suffered from drouth, I could readily account for there being no honey in the clover. When buckwheat came I soon found there was no honey there. Buckwheat only yields honey from sunrise until 11 o'clock A.M., unless the day should be damp; then you will find bees there through the day. If it had not been for a full blow of bass-wood, our bees would not have lived through this month of December. I only had about 8 pounds surplus honey to the hive. I am wintering 105 swarms, and think my loss will be, by starvation, to 10th of May, 30 to 40 swarms. My old stock hives are in the poorest condition; hives that cast no swarms last summer are the poorest off for honey now. 1860 was a very good season for bees; 1861, poor; 1862 was the best I have seen in the State; 1863 was poor again; 1864 they did finely; but 1865 will come near cleaning us all out. Very many bee-keepers of the old school have the idea that combs should be removed every few years. Let me say to such that I have got a hive with combs that have been in use 14 years, and never fails to send off its swarm and make its box or two of honey. The bees raised in this hive must be smaller than those from new combs, but with the naked eye I can see no difference. I am keeping the hive just to see how long bees will continue to well in one set of combs. The only serious thing I find to contend with in summer management of bees is moth worm; it is impossible to construct a hive that those rascals cannot find a hiding place in some part of it; constant watching and killing under and around the hive from 1st of April to September, is the only thing that can prevent their eating and webbing our combs all up. Not a case of foul brood have I seen in this part of our State. I have used the Langstroth hive the past summer, and am well pleased with its working, and very little trouble in getting straight combs. I slip a six inch block under the back end, giving that slant; the bees cluster in that end and commence comb-building on the end of the slats. I let them stand in that shape through the summer. You want a strong swarm and a good flow of honey, and you will not have much trouble in getting your combs built straight."

## Non-Swarming Hives.

Mr. J. L. Waring inquires of us which is the best non-swarming hive. We prefer a reference to several, and leave the decision with him.

Cutting's Changeable hive has an outer box of inch boards, 16½ inches square and two feet high, with a door hung in the rear. In the inside are slid two boxes, each 14 inches long, 11 inches high, and 6½ inches wide. Upon these two a box of the same size is slid flatwise. Free communication is had by the bees from box to box. Either box is taken with its honey at pleasure, and an empty box substituted. Each drawer measures about 1,000 cubic inches, and holds about 35 pounds of honey.

Phelps' Combination hive consists of three boxes or hives placed side by side in an outer box, with communication with each other through the sides. Either removed and an empty box supplied, as in the other case.

A hive described in the *London Field* consists of three or more boxes, up sometimes to five, of about 850 cubic inches each, piled upon each other, with communication through the whole number, more or less. Either box can be changed for an empty one at pleasure, and thus the surplus honey be secured, and the old brood comb be changed for new.

Colton's hive consists of a middle apartment for the swarm, with three side chambers on each side, to receive each a box five or six inches square, and twelve inches long, with a glass in one end, slid in endwise from the back side, and enclosed with a narrow door.

Hazen's hive has a central apartment for the swarm; two chambers upon each side, in each of which two boxes are placed; and a chamber covering no side chambers and central apartment, in which are placed six boxes—the boxes of glass, with the aggregate capacity of about 100 pounds. The front and back sides of the central apartment are covered with glass, to show the state of the swarm, and is secured with double walls, and dead-air space. Our friend can judge and choose for himself.—JASPER HAZEN, in *Co. Gent.*

A WRINKLE FOR DR. CUMING.—The interest which bees have excited from the earliest ages would lead us to believe that nothing more could be learned about them. This, however, we find would be a mistake, if we may judge from the highly interesting work *Les Abeilles et l'Apiculture*, just published by M. de Frarière, which we find full of new and valuable facts. We will only select the following remarkable anecdote, which seems at once to set at rest the disputed question about, not only the faculty which bees possess of communicating their ideas to each other, but also that of foresight. The author was sitting by his open window with a newly-invented hive before him. The last rays of the sun were shining on the entrance intended for the bees. On the opposite side the hive had a glazed window, from which the interior might be explored. It contained nothing which could have attracted the insects, for it had never been in use. Suddenly a bee came humming and flying about the hive, examining it on all sides, until it found the entrance. Here it paused to rest, and at length with great precaution ventured in. The survey must have been satisfactory, for after a while it flew away—not however without paying particular attention, it would appear, to the topographical position of this new place. About ten on the following morning the author perceived a swarm of about fifty bees, flying towards the new hive. This time they entered without ceremony, the report brought by the first bee having probably been considered favourable. Every corner was carefully visited, after which the whole cohort took leave. M. de Frarière, struck with all these circumstances, resolved to see what would be the end of the affair, which seemed very likely to prove that bees possessed much higher intellectual qualities than were generally conceded to them. His patience was not put to too long a test, for about two hours after a splendid swarm of bees arrived, and without any more ado installed themselves in the new abode. But might not the bees have mistaken that hive for another in the vicinity? The author answers this question satisfactorily:—The swarm came from a great distance, and had just left an osier hive thatched with straw—quite different, therefore, from the one they had chosen. Soon afterwards a peasant arrived, claiming the swarm as his own; he had in vain tried to decoy it into a hive he had prepared for it, and nothing would satisfy him but to have it back, although he was offered more than its value in money.—*Ex.*

## Entomology.

### Sports of Insects.

It is not generally known that some of the smallest insects are discovered to enjoy themselves in sports and amusements, after their ordinary toils, or satiating themselves with food, just as regularly as is the case with many human beings. They run races, wrestle with each other, and, out of fun, carry each other on their backs, much in the same manner as boys. These pleasing characteristics of insects are particularly observable among ants, which are remarkable for their sagacity. Bonnet, a French author, says he observed a small species of ants which, in the intervals of their industry, employed themselves in carrying each other on their backs, the rider holding with his mandibles the neck of his bearer, and embracing it closely with his legs. Gould, another writer on ants, mentions that he has often witnessed these exercises, and says, that in all cases, after being carried a certain length, the ant was let go in a friendly manner, and received no personal injury. This amusement is often repeated, particularly among the hill ants, who are very fond of this sportive exercise. It was among the same species that Huber observed similar proceedings, which he has described with his usual minuteness. "I approached," he says, "one day to the fornicary of wood ants, exposed to the sun, and sheltered from the north. The ants were heaped upon one another in great numbers, and appeared to enjoy the temperature on the surface of the nest. None of them were at work; and the immense multitude of insects presented the appearance of a liquid in a state of ebullition, upon which the eye could scarcely be fixed without difficulty; but when I examined the conduct of each ant, I saw them approach one another, moving their antennæ with astonishing rapidity, while they patted, with a slight movement, the cheeks of other ants. After these preliminary gestures, which resembled caressing, they were observed to raise themselves upright on their hind legs by pairs, straggle together, seize each other by a mandible, foot, or antennæ, and then immediately relax their hold to re-commence the attack. They fastened upon each others shoulders, embraced and overthrew each other, then raised themselves by turns, taking their revenge without producing any serious mischief. They did not spurt out their venom as in their combats, nor retain their opponents with that obstinacy which we observed in their real quarrels. They presently abandoned those which they had first seized and endeavoured to catch others. I have seen some who were so eager in these exercises, that they pursued several workers in succession, and struggled with them for a few moments, the skirmish only terminating when the least animated, having overthrown his antagonist, succeeded in escaping and hiding in one of the galleries. In one place two ants appeared to be gamboling about a stalk of grass, turning alternately to avoid or seize each other, which brought to recollection the sport and pastime of young dogs, when they rise on their hind legs, attempting to bite, overthrow, and seize each other, without once closing their teeth. To witness these facts, it is necessary to approach the ant-hills with much caution, that the ants should have no idea of your presence; if they had, they would cease at the moment their plays or occupations, would put themselves in a posture of defence, curve up their tails, and eject their venom."

THE CHINCH BUG—HOW TO EXTERMINATE IT.—Dr. H. Sherman has made a discovery regarding the breeding of the chinch bug, which he thinks will make it an easy matter to totally eradicate this curse of wheat growers. He writes as follows:

The chinch bug having destroyed my wheat crop for a number of years, I was anxious to get rid of him, and I believe I have tracked him home, and can destroy him, root and branch. I believe that if the farmers will follow my advice, they may raise a good crop of wheat, and not lose a bushel from the ravages of the bug. This is the important secret. My investigation led me to believe that the seed wheat or kernel was used as a sort of "foster mother" by the bug, and I find by inspection through a microscope, that in all wheat grown upon land where there are bugs, is deposited in the blow, or fuzzy end of the kernel, a large quantity of eggs, which produce the bugs next season. It follows, that if the kernel of seed wheat is the general depository of the eggs of the chinch bug, that our farmers have been sowing the pest each year as regularly as they have their wheat, and it follows that if such is the case, the eradication of the bug will be easily accomplished—either by sowing no wheat that has been in contact with the bug, or by steeping the seed in some solution before sowing, which will destroy the larva.





### A Week in Huron.

To the Editor of THE CANADA FARMER :

SIR,—I have spent a very agreeable week among the farmers of Perth and Huron; and although this is the most unfavourable season of the year for making agricultural observations a few facts came under my notice that may be worth recording.

The places at which I delivered lectures or addresses were the following:—Mitchel, in the county of Perth, Harpurkey, Clinton, and Goderich, in the county of Huron. The attendance of course varied as to numbers, but on the whole,—especially when the inclemency of the weather is considered,—was as good as might be expected, and in every place I was pleased with the intelligence and marked attention of the people. After my address occupying an hour to an hour and a half, as much time was often subsequently spent in answering questions and hearing observations from practical men, on several of the most important topics connected with agriculture. Indeed, I think these subsequent proceedings are of more value than the lectures themselves; and while I hope to have been in some degree instrumental in imparting useful information, and in offering needful and practical suggestions, the advantages have certainly been mutual, for by these means my knowledge of the state and wants of Canadian agriculture has been both enlarged and deepened. The subjects that chiefly occupied our attention at these meetings, related to the composition and management of the soil, manures, cultivation, rotation of crops, how to prevent the exhaustion of the soil, and the best means of restoring it when it has become, as is often the case with old lands, partially exhausted. Indeed almost every topic relating to the cultivation of the soil for crops, and the breeding and management of live stock, the improvement of the working of agricultural societies, &c., came more or less under consideration, and the results must, to some extent, prove beneficial and encouraging.

The agricultural society at Clinton, gets up an annual dinner, not at their exhibitions, when every one is employed with matters pertaining to the show, but in the winter, when there is abundant leisure to enjoy a social gathering, and to discuss questions of a practical character. I had the honour of being a guest at the last of these demonstrations, and felt delighted with the proceedings. Upwards of a hundred set down to a sumptuous repast, the "getting up" of which, and the whole proceedings connected with it, reflected much credit on the spirit and intelligence of this flourishing society, which has recently purchased eight acres of land close to the village, on which permanent buildings will forthwith be erected, for exhibition purposes. It is gratifying to observe an increasing tendency among societies, in different parts of the country, in this direction. Permanent grounds and buildings not only afford better accommodation, but they render exhibitions more systematic and attractive, and present an opportunity of charging a small entrance fee to non-members, which adds materially to the funds of the society.

At Goderich, a number of the leading agriculturists and townspeople had prepared a luncheon, but owing to the detention of the train, I got too late for the appointment, and I found the town in a state of considerable excitement, as two volunteer companies were just leaving for the frontier, in obedience to orders received only a few hours previous, from Government. Notwithstanding these drawbacks, we held two meetings in the Court House, which if not numerously attended, elicited a considerable amount of interest, and, I trust, of information also. Here, as elsewhere, I was impressed with the earnestness and intelligence of the people.

The shore along Lake Huron, for three or four miles inland, has decidedly a local climate, escaping those late frosts in spring, and early ones in autumn, which are often so prejudicial in higher and remoter situations. Goderich and its neighbourhood is deservedly distinguished for horticultural productions. Peaches, grapes, and the finer kinds of apples, pears,

and stone fruits come to great perfection, as do all the cultivated crops of the garden, as Provincial as well as local exhibitions, have demonstrated. It was gratifying to find in this remote part of the Province that the beautiful art of horticulture is so successfully cultivated. A well managed Nursery, consisting of near one hundred acres, exists in this vicinity, which I had not an opportunity of seeing.

I was certainly surprised to find agriculture in so advanced a state in this fine section. One is apt to associate with what was a few years since known by the term, "Huron Tract" primitive settlements and extensive forests. Now, upon enquiry, I found that in the more advanced townships, fully three-fourths of the land has already been cleared, and as the trees are early all hard-wood, the stumps in many places have entirely disappeared. At Harpurkey the manufacture of draining tiles has been successfully commenced, the specimens that came under my observation were well made and burnt, from a white clay that abounds in the neighbourhood. Pipes of 2 inches diameter and 13 inches long, can be purchased at their works for the moderate charge of eight dollars a thousand. Much of this district would be greatly improved by judicious draining, and it is pleasing to observe that this important means of ameliorating the soil is beginning to attract the attention of many farmers. The live stock of the district may be considered generally above par; a pretty fair use having of late years been made of pure bred males, both in cattle and sheep. The latter consist exclusively of long wools; many of them the result of a cross with the Leicester and Cotswold. When well fattened, many of these animals attain to great weights, both in carcass and fleece, and sheep are reckoned as the most paying part of live stock. I heard several complaints of the recent introduction and spread of the Canada thistle, and it will require a prompt and united effort to prevent this evil obtaining a permanent habitation. Taken in time, with persevering efforts, this dreadful pest might in its present incipient state, be prevented from spreading. It is pleasing to observe how several of the villages on the railway, intersected by the excellent gravel roads that characterize these western countries, are progressing; and the produce of the farm and forest that reaches these centres for shipment is, considering the comparative newness of the country, really astonishing.

Yours respectfully,

GEO. BUCKLAND.

University College. }  
March 13, 1866. }

### Fruit Growing.

To the Editor of THE CANADA FARMER :

SIR,—As the season for planting fruit trees is fast approaching, it may be well to remind such of your agricultural readers as do not yet possess an orchard, of the advisability of at once setting about the preparation of one. Under existing circumstances, and remembering the high prices that apples brought last fall, there is every prospect of the continuance of ready and remunerative markets. For, as the Reciprocity Treaty is abolished apples from our American friends will not be likely to supply our markets as heretofore. Numerous buyers from Montreal, last fall, also found their way to Upper Canada, where they found plenty of fruit and of better quality than they had been previously getting from the other side. Thus a market has been opened up for our fruit with Lower Canada and Europe, that will not likely be closed again, and it will be for our advantage to grow all the fruit we can, with a sure confidence that fair and remunerating prices will be had.

There were plenty of buyers, and thousands of barrels of apples went from the county of Prince Edward last fall; and every farmer acknowledged that apples were the best paying crop, and the easiest earned money of any made on the farm. This has proved itself to be one of the best fruit growing counties in the Province, as it has taken some first prizes at the Provincial shows for several years. Many of our farmers have realized from \$15 to \$25 per tree, without even picking or carrying them to market; but recollect this must be the best kind of fruit. To those about to plant an orchard, I would say beware of whom you buy your trees. Do not buy of those travelling agents, who know little and care less whether the trees they sell are of good quality or not. It costs no more to grow a good tree than it does to grow a poor one, therefore the public should see to it that they are supplied by a respectable nurseryman, and that the trees furnished are good varieties, and are likely to suit the particular locality in which they are to be grown.

R. B. W.

Picton, March, 13, 1866.

### Liberal Offers to Actual Settlers.

To the Editor of THE CANADA FARMER :

SIR, I was much pleased to read in your number of the 15th January, an excellent practical letter from a farmer on the English Company's land in Dysart. Such letters are the best means of removing the false impression which prevails as to the unfitness of this part of Canada for agricultural purposes.

My present object is to convey to your numerous readers the information that the Government offer to actual settlers, land in the same section of country in which your correspondent resides at 70 cents an acre for cash, or \$1 an acre on a credit of five years.

In the Townships of Herschel, Monteagle, and Bangor, farming has been carried on extensively, and with great success, for the last six or seven years. The settlers in these townships raise as large and good crops as any in the Province.

In Wicklow, close to the intersection of the Hastings and Peterson Road, a large grist mill and a saw mill have been erected.

At La Mah's Lake, in Dunganon, there are also good mills, of both kinds, in full operation.

Lists of the lots in the different townships, and any further information that may be desired, can be obtained from me by letter, or personal application.

M. J. HAYES,

Crown Land Agent, Co. Hastings.

COUCH GRASS RAKE.—"P. M.," of New Carlisle, "would like to be furnished with a plan of a simple, strong, and cheap Couch Grass Rake."

LOP-EARED RABBITS.—"S. Luscombe," Box 79, Simcoe P. O., writes:—"You may inform 'Rabbit Fancier' that I can let him have Lop-eared Rabbits, pure, of tortoise-shell colour, at \$1 a pair."

WHITE AYLESBURY DUCKS WANTED.—"S. L.," of Simcoe makes the following enquiry:—"Can you, or any of your correspondents, inform me where I could get a pair of White Aylesbury Ducks of pure breed—and at what price?"

ILLEGIBLE.—A Charlotteville correspondent sends us a communication which, owing to careless penmanship and bad ink, we are totally unable to decipher. So nebulously obscure are the characters, that we fail to discover even the subject of the missive. If our correspondent would secure attention to his communications in the future, he must, at least, write legibly, and use ink of a somewhat darker complexion.

CUTTING PEA-STRAW UNTHRESHED.—"W. C.," of Hamilton, writes:—"In an article in Vol. II., No. 3 of THE FARMER, signed 'Erindale,' he speaks of the saving he effected by cutting his pea-straw unthreshed; but it appears to me that it would cost about as much to separate the peas from the cut stuff as it would to thresh them. If he would please to inform us through your columns of his method of separation, he would oblige."

QUANTITIES OF RAPE AND ORCHARD GRASS SOWN TO THE ACRE. A Subscriber writes:—"Will you have the goodness to inform a subscriber, through the medium of your journal,—1. What quantity of Rape Seed is generally sown to the acre? I have a piece of land which, from overcropping, I believe, has been exhausted of its nitrogenous properties. I sowed it with oats last spring, and seeded down with clover, which took well. My intention is to plough the clover under as soon as it is ten or twelve inches high in June next, and after it has lain two or three weeks, sow it with Rape, using a light harrow and brush to cover the seed, and when the rape shall have grown a foot high or so, plough it under. 2. Please favour me with your ideas of such a course. 3. Also please advise me of the usual quantity of orchard grass seed sown to the acre."

ANS.—From four to six pounds per acre of rape seed are generally sown—dependent on the nature of the soil and the season; but for ploughing in, you may safely sow eight pounds.

2. You do not supply sufficient data wherewith to arrive at an accurate opinion on the propriety of the treatment you propose. The green-crop manuring, however, cannot fail to be of advantage to the soil.

3. Two bushels per acre.

**COMBINED THRESHING AND WOOD-CUTTING MACHINE.**—“A.” of Muskoka, writes:—“Can you inform me if there is a Canadian manufacturer of ‘A combined’ threshing and wood-cutting machine of simple construction? I am a resident in a newly-settled district, to whom time is of the utmost consequence in carrying out clearing and other farming operations, and unable to visit the various manufactories in order to supply the above and other wants. It would be a great boon to the readers of your valuable paper if an occasional advertisement were inserted by the various manufacturers, describing the machines they would be able to supply to the farming community.”

Ans.—We are unable to furnish the information. We trust our Provincial manufacturers will take the hint, and keep our readers posted up on available agricultural implements, and labour-saving machines generally.

**DIFFERENCE BETWEEN A GARDENER AND AN AMATEUR.**—An “Old Subscriber” writes:—“There is at present much controversy going on among the members of the Hamilton Horticultural Society as to where you may draw a line between a gardener and an amateur. A person who has been a market-gardener is about to quit the pursuit himself, and to take some other occupation. He, nevertheless, says that his wife will continue to attend the markets to sell what they can raise from a piece of ground attached to the house they occupy (about half an acre), and that she will purchase other produce to keep her stall supplied. You will greatly oblige if you will answer through THE FARMER whether the man can be an exhibitor at the Shows as an amateur, which he intends to do?”

Ans.—An amateur is usually regarded as one who is versed in, or is a lover of, some particular pursuit, but who is not engaged in it professionally; or, in other words, one who does not make the said pursuit the means of earning a livelihood. As the individual in question still purposes to derive part of his income from market-gardening, we cannot see that he is entitled to exhibit as an amateur.

**LIVE FENCES.**—“John Winch,” Simcoe, writes:—“Having seen several articles in THE CANADA FARMER respecting live fences, and the English Hawthorn, Osage Orange, &c., I have been much surprised that Canadian White Thorn should be so lost sight of. It will make as good a fence as any imported variety. We very frequently see a few bushes, with their strong thorns, in the corners of the zig-zag rail fence, and if bushes could talk, they would say, ‘why not make a fence of me?’ That they will make a hedge equal to any, may be seen in our neighbourhood. There are a few rods of Canada thorn hedge, a couple of miles from where I write. It was planted by an old Englishman, whose intention was to hedge the front of his farm, had not an accident prevented; but enough has been done to prove it will answer well. On many places there is now growing in the woods and fields, enough thorn to plant a hedge on the front of one hundred acres, waiting for transplanting, or the seed, by a little care, may be easily obtained in the fall. The small berry is said to be the best for fencing. (The hedge referred to can be seen by any one coming to Norfolk, it is close to the tollgate west of Simcoe,—a few yards east of the gate, and south of the gravel road leading to Fredericksburgh.)”

**PRICE OF DRAIN TILES.**—In reply to the enquiry of “C. Sibbald,” on this subject, which appeared in our last issue, Messrs. Bullmer & Douglas, Tile Manufacturers, Yorkville, state that they are prepared to fill orders at their manufactory, or on the cars or boat at Toronto, at the following prices—

Size	Price at Manufactory.	Delivered on Cars or Boat.
2 inch	\$ 6.00 per 1000	\$ 7.00 per 1000
3 “	\$10.00 “ “	\$12.00 “ “
4 “	\$15.00 “ “	\$18.00 “ “

Mr. Jonas S. Barnes, Tile Manufacturer, St. Thomas, Co. Elgin, informs us that he will deliver Drain Tiles on the cars, at that place, at the rates appended:—

1½ inch at.....	\$ 6.00 per 1000.
2 “ “.....	\$ 8.00 “ “
3 “ “.....	\$10.00 “ “
4 “ “.....	\$12.00 “ “
4 “ “.....	\$18.00 “ “

**APPLES TO NAME.**—“S. S.,” of Port Hope, writes. —“I send you half a dozen apples, of which I wish to ascertain the correct name. The specimens sent are below the average size. Some of them are twice the size of any of these sent. In the fall, when they are gathered, they are of a dark olive green, splashed and shaded with brown. Now the green has turned yellow, and the brown has become red. The tree is a large, upright, healthy grower, and bears well. I got it for a *Newton pippin*, but you will see the fruit does not correspond with the description of that variety as given by Downing. It is a very good apple, and I would be glad to know what it is.”

Ans.—The variety submitted is unknown to us, or to any of our pomological friends with whom we examined and tasted the specimens. It is probably a seedling.

**POULTRY-KEEPING EXPERIENCE.**—A “Poultry Fancier” writes on this subject as follows:—“About three years ago I began to keep poultry, and the first stock that I had consisted of common fowls. After thoroughly trying them, I find that they are too expensive, from the fact that they consume more grain than other breeds that are far better layers. The first year I had eight hens; they laid 420 eggs, the average per hen being 52½—the second year I had the same number of hens, they laid 548 eggs, the average being 68½ per hen. I find barley the best feed for hens. Next year I am going to try the Polands, and see if they will lay better. I think hens lay better without a rooster. Lime should be put where the hens can get at it, as it is essential for the formation of shells; and water should be also placed where they can get it in abundance. Now, Mr. Editor, as I am a small boy, you won’t be hard on me. You will excuse me for asking these questions. 1st. Where can Mrs. Blair’s ‘Henwife’ be obtained, and at what price? 2nd. Which are the most profitable kind of fowls?”

Ans.—1. “The Henwife” may be procured through any bookseller. Price, \$1 25. 2. An authority, which we quoted in THE CANADA FARMER, vol. ii., p. 171, answers your question thus.—“For chickens for the table, nothing like the Dorkings. For size of egg, nothing equal to the Spanish; but they do not lay very regularly. For number of eggs, nothing like the Hamburgs, but the size of egg is small compared to the Spanish. The Hamburgs lay about eleven months in the year, and never sit. For eggs during very hard frost and snow, nothing like Brahmans.”

## The Canada Farmer.

TORONTO, UPPER CANADA, APRIL 2, 1866.

### End of the Reciprocity Treaty.

Since our last issue, the Reciprocity Treaty has expired. An arrangement which created a vast trade between the British Provinces and the United States, is brought to a close, and we have entered upon a new order of things. As a retrograde step, the change is to be regretted. The termination of reciprocity is an evil in the sense that all obstructions to commerce are evils. Fortunately, however, our position is such that we have no cause to be alarmed at the loss of the Treaty, or to be apprehensive as to the future. We know, from the progress of the country before the Treaty was negotiated at all, that it is not an absolute necessity to us; and we know also, that there has been no time since the Treaty was negotiated when our country has been so well prepared for the effects of its abrogation. Not only has the bountiful harvest of last year enriched the Province by millions, but a number of incidental circumstances conspire to lessen the inconveniences which may arise from the change in our commercial relations with our neighbours.

A large portion of the articles which we have been exporting to the States under the Treaty, are in such demand in that country, that they will still be bought, and the duties paid by American consumers. That this is true of the lumber trade, no one doubts. The supply of American lumber is too small for the demand, and the markets which we supply are distant

from the lumber districts of Maine and Michigan. It may be true that the advance in price which will be occasioned by the imposition of duties will lessen the demand a little, but probably to no great extent. In the same way, the American manufacturers require our wool, for the reason that the wool-growers do not produce either the quantity or the quality required. If the Americans are to continue the manufacture of worsted goods, they must have Canadian wool, and pay any duties which may be levied upon it. If our wool is not sent to the States, it will be manufactured here, and the cloth will very likely be purchased by our neighbours. Already, Canadian woollens are largely sold at a great profit in New York, and the tax on our wool will, by advancing the price of American wool, make American woollens still dearer, and give our manufacturers a still better chance to compete. In either case, the tax on wool will cause little or no loss to us. The article which will be most affected is undoubtedly wheat, and ordinary description of wheat will hereafter be shipped direct to England, instead of being sent by way of New York. But the Americans have been in the habit of paying very high prices for Canadian white wheat for domestic consumption. There is a demand for flour made from that wheat, and it commands prices quite unwarranted by the quotations at Liverpool. We are by no means sure that the well-to-do people in New England, who insist upon having the best quality of flour, will be content with an inferior article because there is a tax upon Canadian wheat. It is very likely that a portion, at least, of that trade will be continued on terms advantageous to us. We believe, too, it will be found that the demand for other articles of Canadian growth is not to be entirely stopped by taxation. Altogether, the Washington protectionists will be astounded at the extent to which they have, by their short-sighted policy, imposed taxes upon their own people.

Undoubtedly the change in our commercial relations with the States will call forth important changes in our agricultural system. We shall not want to raise so much wheat as formerly. Our farmers will be forced to make a change in that respect, which might well have been made long ago. They have been too much disposed to sow wheat year after year. Attention can be profitably turned to other crops. The experiments in flax-raising, which have been made in various parts of the Province, by hundreds of our farmers, have proved most successful. The yield is both more certain and more profitable than that of wheat. Large mills designed for the manufacture of linen goods are already in operation at Doon and Streetsville—a guarantee that a market will be afforded for flax, and that some of our most enterprising capitalists have faith in the success of the efforts being made to introduce the cultivation of flax into Canada. Too little attention has hitherto been devoted to the establishment of Dairies. In many sections of Canada, the land is admirably fitted for grazing, and the making of cheese and butter would be found far more profitable than wheat-growing, even were the Reciprocity Treaty continued.

There is no reason to think that the raising of cattle and hogs will, in the end, be rendered less profitable by the abrogation of the Reciprocity Treaty. For the present, indeed, living animals may be exported to the United States free of duty, but we do not think it safe to count upon the continuance of that arrangement for any great length of time. We can, however, find other markets for the meat which we raise. It is well known that beef and pork are largely exported from the United States to England. The British navy is largely supplied from that source. We can surely supply cured beef and pork cheaper than they can be sent from the United States at the present time. Besides enlarging our trade with Britain, we have the prospect of extending it in other directions. The mission to the West Indies has, we have every reason to hope, proved a great success. The delegates were everywhere welcomed by the local authorities, and found the warmest interest taken in their errand. At every place they found goods imported from the United States, which could be quite as well supplied from Canada, and at cheaper rates. It is necessary, before anything can be done, however, to establish communication, and efforts will be made at once to establish steam communication between Canada and the Lower Provinces, and from thence with the West Indies.

## The Present Position of the Veterinary Profession in Canada.

The growing importance of information regarding the management of farm stock in health and disease, consequent on the marked revolution which has taken place in the breeding of horses, cattle and sheep in this Province within the last few years, has rendered the education of properly qualified Veterinary Surgeons a subject of much interest to our agriculturists. Since the comparative failure of our great staple—wheat—more attention has been paid to the improvement of the different breeds of stock, and much credit is due to the enterprise of such gentlemen as Messrs. Christie, Stone, Snell, Miller, and others, who have done much in this direction, by importing animals of new and pure blood. Though we cannot boast much of the same advancement in the breeding of horses, yet they too are improving, and the great demand which has been experienced for all kinds of Canadian stock of late years has so raised their value, that farmers have seen the necessity of procuring educated Veterinary Surgeons to assist them in cases of accident or disease; for, as is well known, although every town and village in the Province contains two or three individuals who assume the title, yet in all Canada there are not a dozen who hold diplomas from any recognized school. This is not to be wondered at, when we come to consider the small prices which stock commanded until lately. The exorbitant charges which those unprincipled impostors exacted from those who were forced to employ them, and the bungling and often injurious remedies which they employed, drove farmers either to treat their own stock, directed by some books on the horse, or to solicit the assistance of some kind neighbour; or, as the last resource, let nature take her course rather than submit their animals to be tortured by these dissipated and unprincipled "Horse Farriers." Hence, when the genuine Veterinary did venture to introduce his profession, people had no confidence in him, and in nine cases out of ten, the empiric could get along as well, and sometimes better, with his boasted nostrums, than the man of education who practiced on scientific principles. We must not be understood to imply that we had no professional Veterinarians until the subject engaged the attention of the Board of Agriculture; but it cannot be denied that until the efforts of the Board were put forth, the profession had no name or place in the country as such.

Five years ago, at the suggestion of the late lamented Hon. Adam Ferguson, the Board of Agriculture were induced to take some steps in the matter, which resulted in the appointment of Mr. Andrew Smith (on the recommendation of Prof. Dick) as Veterinary Surgeon to the Board to give a course of lectures in Toronto on Veterinary Science, with a view ultimately to establish a Veterinary School. The success which attended this course, induced Mr. Smith, on behalf of the Board, to invite Mr. D. McEachran to Canada to assist him in the establishment and management of the school.

For the last three winters, a regular systematic course of instruction has been given by these gentlemen, assisted by Dr. Bovell, Professor of Physiology in the Toronto School of Medicine, and Geo. Buckland, Professor of Agriculture in Toronto University, under the auspices of the Board of Agriculture, as the "Upper Canada Veterinary School." Pupils who attend the prescribed curriculum, and pass the necessary examination, receive a diploma, certifying that the holder thereof is qualified to practice in Canada. Provision is also made for Veterinary lectures to the pupils attending the Agricultural class in the University. Lectures on the subject of Veterinary Art and Science have been given from time to time throughout the country by the teachers of the School, and our own columns have been the medium of disseminating useful knowledge on the subject; so that even in a few years much has been done to place the profession in the position which its importance to agriculturists demands. Not only, educationally, has it made progress, but, in a practical point of view, the profession in Canada is of high standing. Within the last few years many surgical operations have been introduced for the relief of suffering and cure of disease in the lower animals, which hitherto had not been practised in Canada; among which we may mention Neurotomy, or the division of the nerves supplying sensation to the foot, by which many noble animals are relieved from constant suffering and from incurable diseases of the foot, and restored to usefulness to their owners. Lithotomy, or the removal of stone from the bladder—a report of a suc-

cessful operation of which appeared in our issue of January 1st, 1866, by Mr. McEachran—this is the first time we have any mention of this bold operation in Canada. Many other valuable improvements in the management and treatment of agricultural stock have taken place since the introduction of the profession amongst us, and we hope that the farmers of Canada will see it to their interest to foster and encourage it in a degree commensurate with its important relations to agriculture.

We would draw the attention of our readers to an advertisement on our last page, calling upon all veterinary surgeons who hold diplomas from any recognized school to send in their names, addresses, the school they studied at—and the date of their diploma,—with a view to publish them at an early date, and thus place the present position of the veterinary profession in Canada fully before the public, and enable the owners of stock to know and distinguish the qualified veterinary surgeon from the impostor who assumes the title without the least just claim to it. We hope veterinary surgeons throughout the Province will respond immediately.

## Shall we Sow Largely of Barley this Year?

A CORRESPONDENT of the *Globe* strongly cautions Canadian farmers against doing this, and urges that the high price obtained for the enormous crop of barley raised in this country last year, was "entirely owing" to the failure of the crop of barley in the United States, which was harvested in such bad condition as to be quite unmerchantable. He argues that if a large breadth of barley be sown on both sides of the lines the present year, and the crop should turn out well, this grain would probably bring a lower price than it has done for ten years.

We do not concur with the advice and opinions above given, and will briefly assign some of the reasons which induce us to think it will be quite safe to sow pretty freely of barley the present season.

1. If we take the returns for 1864 as a basis, we find that we grew during that season half as much barley in this country as was grown in the United States. The crop that year was fully an average one in the United States, yet a ready market was found for upwards of four millions of bushels of Canadian barley. Unless, therefore, the American farmers make a special effort, and sow a much greater breadth of land than usual, we shall have no difficulty in disposing of our barley crop, even though it be a large one.

2. Last year's export of barley from this country is only estimated to have been about a fourth more than the preceding year. As long since as 1860, we exported nearly three million bushels of this grain. The demand for it is steady, and there is no reason why we should diminish our usual seeding.

3. We have some advantages in our favour with regard to the raising of barley, which are almost certain to secure us a market for all we grow. Our climate is pre-eminently favourable for it. Barley does best in a northern climate, and it is universally conceded by those engaged in grain-buying, that Canada furnishes the best sample grown on this continent. In 1864, notwithstanding our greater distance from Philadelphia—the great barley mart of the United States—our barley realized 76 cents per bushel, in gold, within one cent of the price brought by the barley grown in the State of New York. Wisconsin and Northern Iowa grow good barley, but they are so far removed from market that their competition cannot injure us. In 1864, while Canadian barley brought 76 cents, Iowa barley only brought 53 cents. Moreover, New York, which is the greatest barley-growing State of the Union, raising more than one-third of the entire yield, has grown too much of this grain, and it is said that many farms are quite "barley-sick" through over-production of it. Hence, it is hardly likely New York farmers will grow more than usual of it the coming season. Indeed, the probability is that they will grow less.

4. In the opinion of those best qualified to judge in regard to this matter, we need not be afraid to sow this grain the present year. Though it is liable to a duty of 15 cents per bushel owing to the expiring of the Reciprocity Treaty, there is reason to think American buyers must have it even if they pay the tax themselves. Indeed, efforts are being made to get the duty taken off, wholly or in part.

An enterprising produce buyer of Brantford has received a letter from a Buffalo house, in a position to be well posted in such matters, from which the following is an extract:—"If your people will only sow Barley largely the present spring, we can assure them it will be wanted at good prices. We solicit your aid in inducing your farmers to raise their usual crop of Barley. A combined effort is being made to reduce the tariff on Barley to 5 cents per bushel, and we think it will be successful."

The *Trade Review* says:—"We have had communications from United States brewers by the score. They were among the most strenuous advocates—indeed for a time the only advocates—of a renewal of the Reciprocity Treaty, because they felt they must have our barley. And since the failure of the negotiations they declare they will have it, though they pay all the duty themselves. A Philadelphian, whose firm last year bought nearly 2,000,000 bushels, in great part Canadian, assured us that so determined were the great brewers of that city to maintain that pre-eminence in business they have acquired, and ensure success in the competition of beer with other beverages, and a continued return for the large capital they have invested in their gigantic breweries, that if the Canadian farmer gave up growing the fine barley of which they have almost the monopoly, they would send to England for as much as they could buy."

Properly speaking, we ought to have a steady market for barley independently of our United States neighbours. Canadian Barley, in large quantities, is milled on the other side, and then exported to England. This trade should be carried on by us with the mother country direct, so that Canada might have all the profit of it. It is one of a number of new commercial channels, which the abrogation of the Reciprocity Treaty will be likely to open up for us.

## The Cheese Trade.

Few persons have any idea of the extent of this business, or the amount of capital represented by it. Your bit of cheese that you nibble occasionally is a very small thing, but a vast multitude of people are constantly nibbling away at similar bits, and "many a little makes a mickle." We know of no direction just now in which the farming population of Canada can more profitably direct their energies, than that of establishing factories for the wholesale manufacture of cheese. There is a sure and paying market for this dairy product,—a double market indeed,—home and foreign. Last year we imported, chiefly from the United States, 2,530,650 lbs. of cheese, at a cost of \$381,891. We might have made all this cheese ourselves, and kept this large sum of money circulating in Canada. There is no reason why we cannot make as good an article as our American neighbours. Our pastures are as rich, and our facilities as great as theirs. It would be no despicable addition to the proceeds of home industry, were we in time to come to supply the Canadian demand for this article. But there is also the British market, now largely supplied by American dairies, and in which we can most advantageously compete with them. It is estimated that during the year 1864, upwards of 50,000,000 lbs. of cheese were shipped for England from the port of New York. Seventy shillings per hundred was about the average for which it sold, being within ten shillings of the best English-made article. The amount realized by this one American export, was therefore no less than £1,750,000 sterling, or \$8,750,000.

Here then we have a wide and inviting channel of trade, and one for the use of which appeal must be made directly to the farmers of Canada. Unless they open their eyes to it, little or nothing can be done. For more than two years past, this subject has been most earnestly pressed on their attention, in these columns, and in those of the leading journals of this province, yet but little, comparatively speaking, has been done. We have scarcely half a dozen factories in operation, and these are all in a single county. Oxford is no better adapted for cheese-making than many other parts of the country. What is wanted is

arousing up to the importance and practicability of the matter. Our farmers have been so accustomed to have markets provided for them,—store-houses built for the grain they have raised, and drovers coming round to buy their fat stock,—that they do not readily take up enterprises of this description. But would it not do them good to put forth personal exertion, and become manufacturers as well as producers? Would not the intercourse—contact, and fiction of mind with mind—that would come out of the management of these concerns, be a great benefit? Does not every view of the subject urge energetic action in reference to it?

The present is at once a favourable and unfavourable time for these enterprises. It is favourable, inasmuch as from the cessation of reciprocity, we need to seek out new lines of profitable activity, and to render ourselves as independent as we can. But we are somewhat unfavourably situated, from the fact that our stock of dairy cattle has been greatly reduced by sale to American buyers. For some time past, everything in the shape of a cow has been eagerly bought up by drovers from the other side. Very high prices have been given for them, and the temptation was almost irresistible to sell all that could be spared. The result is that we are low in dairy stock, and indeed in cattle of all sorts. But there is scarcely a farming neighbourhood, where within a radius of from four to six miles, a cheese factory could not be sustained, and by saving the heifer calves, yearlings, &c., a very large addition to our dairy stock can quickly be made.

We move slowly, yet there is a little progress making. We hear of projected cheese factories in several parts of the country, and hope they will ripen into fixed facts. Once let our farmers find out the advantages they secure, and their quick multiplication is certain. They do not require a large amount of capital, while they are a sure source of profit both to factor and farmer.

**Rinderpest.**

FROM our latest English fyles, received per the *China*, we are glad to learn that the "weekly returns of the cattle plague show a continued diminution of new cases, but a large increase in the number of cattle killed." That part of the statement which we have italicised is highly significant. It shows that at last all vaunted specifics and preventives have had their day, and that a vigorous "stamping out" policy is in full operation. The red pickling onions, garlic, and sublime nonsense of Mr. Maurice Worms, are, we trust, consigned, and forever, to the oblivion that they merit. High patronage and willing ears were lent to this pretender, who "had cured rinderpest in Ceylon, and could cure it here." Lord Leigh wrote a letter magnifying Worms, and sounding the singular and remarkable virtues of onions and garlic. The public had scarcely recovered from the effects of this aristocratic horn blowing when the new sensation sank from the sublime to the ridiculous, for Mr. Worms wrote to the daily press correcting a vital error on the part of some one using shallots instead of red pickling onions. Professor Gamgee tried the dose, and reported on its effects, as follows:—"Of eight calves, four were placed under treatment, and four left to themselves. The four treated are all dead; the four left to nature are still alive, though two, if not three, are likely to die. I do not think Mr. Worms' treatment aggravated the disease much, except in one case; but the truth is, that with the most careful nursing, attention day and night, and every desire to test fairly the assafœtida treatment—which is a very old friend in a new garb, of onions and garlic—the four animals treated died, and those not treated are still in life. Facts are stubborn things, and I think I need not add another syllable to this communication."

Professor Simonds was also requested to report on Mr. Worms' so-called remedy. In concluding a

lengthy communication to Earl Granville, the Professor says:—"I cannot refrain from expressing my sincere regret that another supposed means of arresting the cattle plague by medical treatment should have proved abortive."

As regards the home aspects of this dreadful malady, the prompt and vigorous action of our Government must command the hearty approval of every Canadian. As most of our readers are, no doubt, aware, it is ordered that, from the 1st of March past, the importation or introduction into the Province, by sea, of cattle, sheep, horses, swine, asses and mules, meat skins, hides, horse's hoofs, and other parts of such animals, hay, straw, fodder, be and the same is hereby prohibited, save and except such cargo or cargoes, or part of cargo, as His Excellency in Council may hereafter see fit to exempt from such prohibition.

We observe likewise that in the last Monthly Report of the United States Minister of Agriculture, the attention of Congress is energetically invited to the necessity of adopting further precautionary measures to prevent the introduction of the disease into the States.

**The English Harvest of 1865.**

A RECENT issue of the *Mark Lane Express* contains abstracts of about 600 reports of last harvest's returns, received from all parts of the country. These returns are summarized by our contemporary as follows;—the average crops of England being assumed thus: Wheat 28 bus.; Barley 40 bus.; Oats 18 bus.; and Peas and Beans 32 bus. each, per acre:

	Wheat	Barley	Oats	Beans	Peas
Two-thirds under average	1	—	5	—	—
Half under average	11	3	29	17	19
One-third under average	23	17	51	23	23
One-fourth under average	58	12	46	46	47
One-fifth under average	9	21	26	5	5
Under average	183	146	230	141	140
Average	232	278	166	147	223
Over average	45	21	16	2	45
One-fifth over average	12	4	—	10	—
One-fourth over average	1	—	1	1	1
One-third over average	—	—	—	—	—
Half over average	—	1	—	—	—
Two-thirds over average	—	—	—	—	—
Totals	597	558	537	400	484

In analyzing the above table, we find that with respect to wheat, the number of returns "under average" amount to 285, whilst those "over average" are only 63 in number. It appears that it was "chiefly the light soils on which the crops were the most affected by the drought; whilst the heavy land, for the most part, bore a fair crop of wheat."

The Barley crop turns out somewhat better than was expected, there being 328 "average" and "over" yields to 210 "under." The Oat crop was a miserable one—107 "under" to 126 "average" and "over," leaving an excess of 281 against the yield. It is therefore highly probable that this grain will range at a high price throughout the present season. The Bean and Pea crops show a considerable deficiency, but the latter much less than was expected, considering how much this crop is liable to suffer from drought, on account of the fly, which generally attacks it in dry weather."

"On the whole," says our contemporary, "taking the cereal produce as we find it in these returns, the season has been far from a favourable one for the English farmer, even independent of the cattle murrain, which has crushed so many of those of moderate means to the very earth. One circumstance relative to the corn trade must not be overlooked, the impossibility of effecting a rise in the price of wheat adequate to the deficiency in the crop. This, certainly, does not arise from the largeness of the foreign supplies, for these have been smaller since harvest than for many years past. What the period from this time to the conclusion of the next harvest may produce, we do not pretend to foretell; but in the absence of supplies from the United States, where prices are quite as high as they are with us, we much question whether the European markets can afford us the amount of corn we shall certainly require to make up the 22½ million quarters consumed in the United Kingdom."

**CHEESE FACTORY MOVEMENT IN GUELPH.**—Two meetings have been held in Guelph with a view to the establishment of one or more cheese factories in the vicinity of that town. An association has been formed, and an active canvass is being made among the surrounding farmers to see what encouragement can be obtained toward the movement. We wish it all success.

**THE AMERICAN POMOLOGICAL SOCIETY.**—We learn from the recently issued circular of this National Association that its Eleventh Session will commence in the City of St. Louis, Missouri, on Tuesday, September 4th, 1866, at 11 o'clock, a.m., at Mercantile Library Hall, and will continue several days. "All Horticultural, Pomological, Agricultural, and other kindred institutions in the United States and British Provinces, are invited to send Delegations, as large as they may deem expedient; and all other persons interested in the cultivation of fruits are invited to be present and take seats in the Convention."

**NORTH RIDING OF OXFORD AGRICULTURAL SOCIETY.**—We gather from a circular, addressed to us by the Secretary, that the Spring Fair of this flourishing Society will be held in the Town of Woodstock, on Thursday, April 19, inst. "Horses, Cattle, Sheep, and every description of produce and implements" are likely to be offered for sale on their Show Ground; while several prizes will be offered for Stallions for carriage and for agricultural purposes respectively. The Directors of the Society, desirous to secure the services of a first-class Agricultural Stallion to travel in the Oxford District, are further prepared to offer a bonus of fifty dollars to the owner of such a horse as shall meet the approval of the Judges.

**Agricultural Intelligence.**

**Riga Flax Seed.**

ON this subject, the Hon. T. D. McGee, Minister of Agriculture, writes Dr. Bown, M.P.P. for East Brant, as follows:—"I have to inform you that we have ordered an import of genuine Riga Flax seed, which we hope to have laid down in Montreal and Toronto, in charge of the respective Boards of Agriculture for Upper and Lower Canada, early next month. The seed will be sold to growers at stock price, and all the Secretaries of the Boards will have general instructions to act as our salesmen, with a view to the distribution of the quantity over the greatest breadth of country from which application may be received. I regret to say that it will not be very cheap—probably not under \$6 a bushel. This, of course, includes the freight and charges from Hull to Liverpool, and from Liverpool here. But even in Hull—the best market—the price is high, from 22s. to 24s. sterling, in consequence of the Russian Government having bought up, from a failure of their own flax crop in 1864, almost all last year's seed."

**Corn Syrup**

It may now be two years since we announced that a German Chemist in Buffalo claimed to have discovered a process whereby the starch of Indian corn might be readily transmuted into sugar, whereof it has long been known as the chemical equivalent. His patent was bought soon afterward, by a company in this city, who have since been experimenting with it, under the direction of Mr. A. E. Ockershausen, the eminent and life-long sugar refiner, 17 Rose st.

We looked in there a few days since, and gleaned the following facts:

1. No marketable sugar has yet been made under this patent. That which alone has been produced in any quantity is what is known as grape sugar—differing in the form of its particles from cane sugar, and not convertible into the latter by any known process, acceptable as a substitute therefor.

2. Syrup, of a fair quality, is made of corn under this patent, and may be to any extent. We do not consider it so intensely sweet as cane or maple syrup of equal density, but we could detect no alloy or other fault in it. We should judge that one hundred gallons of corn syrup are about equal to 75 of equally thick cane syrup. The color of the two does not materially differ.

3. The starch of the corn is separated for syrup precisely as it is for the production of the edible corn starch of commerce. Beyond that point we did not observe the process; but presume the transmutation of starch into sugar is akin to that whereby alcohol is obtained from grain.

4. Mr. Ockershausen says that a bushel of corn yields three gallons of syrup, worth 75 cents per gallon. The residuum (gluten, bran, &c.) sells at 20 cents per bushel for feed.

How far the company consider their invention or process a success, and whether they still hope to produce unexceptionable sugar from corn, we did not enquire; but we believe they are satisfied that syrup from corn is a fixed fact, and one of decided importance.—*N. Y. Tribune.*

**THE LARGEST PIG**—Mr. Asa Crittenden, of Groton, Tompkins Co., N. Y., killed a pig, which lacked three days of being ten months old, that weighed 453 lbs. It ate the last 60 days 600 lbs. of corn meal. Who can make a better report?

**BRANT COUNTY WOOL GROWERS' ASSOCIATION**.—The annual meeting for the election of officers for the above Association, recently took place in the town of Paris, when the following gentlemen were elected for the present year:—W. W. Brown, M.D., President; W. G. Neillis, 1st Vice-President; George Peatman, 2nd Vice-President; Elvin Hill, Secretary and Treasurer; Lewis La Pier, Assistant Secretary. Directors Hon. D. Christie, Jacob Moot, C. Burns, J. B. Merritt, Wm. Burrell, D. Perley, A. Buchanan, S. McKenzie, and L. S. Tisdale.

**THE MOST PROLIFIC COW ON RECORD**—Mr. Henry Neff, of west Burro, Huntingdon Co., Pa., sends the following very remarkable statement to the *American Agriculturist*:—"A short time since I read in the *N. Y. Times* an account of a very prolific cow in England, having four calves at one time, which all died soon after. Porter township, Huntingdon Co., Pa., can beat that—all hollow. When I was a boy, about thirty years since my father had a cow that had eight-teen (18) calves at seven (7) births. The first time she had one, the next time three, the next time four—three times succeeding this she had three each time, and the last time she had two. They all lived and grew up fine and large, with exception of one, which was one of the four. When the cow was found in the field with the four calves, one was dead, although it was as large as the living ones, and seemed as perfect in every respect. I can give any amount of testimony to prove the correctness of the above, if any one thinks it incredible or wants more evidence."

**REPORT ON AGRICULTURE**.—The annual report of the United States Commissioner of Agriculture for 1865, shows the amount of crops, as compared with the year preceding:

	1865	1864
Wheat bush	148,577,829	160,007,823
Rye	19,543,975	19,822,975
Barley	11,391,286	10,672,172
Oats	223,252,385	116,650,063
Corn	794,427,859	530,461,403
Puckwheat	15,331,019	18,700,640
Potatoes	101,632,695	99,236,883
Hay, tons	22,538,740	18,116,751

The following table shows the total number of animals for January, 1864 and 1865:—

	1865	1864
Horses	3,730,933	4,049,142
Mules	217,553	230,847
Cattle	7,072,461	7,935,439
Cows	5,768,130	6,094,48
Sheep	28,647,239	21,346,391
Pigs	13,670,85	16,148,712

**THE TRIPP OX**.—A steer of which we had previously heard glowing accounts, was lately killed in New York, the weight of which is stated as follows: Fore-quarters, 709 and 707 lbs.; hind-quarters, 536 and 523 lbs.; total, 2,475 lbs.; making him two pounds heavier than the famous Sanderson ox "Constitution," killed by Bryan Lawrence in the winter of 1862. He was raised and fed by T. H. Tripp of Stanford, Duches Co., and was a grade Shorthorn in breed. The statement in the *Tribune* from which we obtain these facts, says he measured "10 feet 2 inches in length, 10 feet 8 inches girth, and stood 5 feet 9 1/2 inches high at the fore-shoulders. He weighed 3,795 lbs. at home, 3,732 lbs. at the yards, and was bought by Mr. Lalor for the snug little sum of \$1,500."—an amount which looks large, though we may doubt whether it actually paid for the money expended on his feed. He won the palm as the heaviest ox on record in this country by a very narrow margin in the weight of dressed beef, although judging from his live weight as above stated as well as from what we are told of him by those who had seen both, he was larger in measurement and a much coarser animal than the Sanderson ox, which, as we saw it some time before it went to New-York, was a model of compactness and symmetry for an animal of its size. The heaviest live weight the latter reached at home we believe was 3,660 lbs., and the day before it was slaughtered it is said to have weighed 3,400 lbs., or 432 lbs. less than the Tripp ox "Reunion." We should like in view of these facts, to see a comparative statement of the amounts of food consumed by the two animals.—*Country Gentleman.*

**Horticulture.**

**Water-Cress.**

Our common Water-cress is one of those cosmopolitan plants, not quite so widely diffused as some others, but still to be found almost everywhere throughout Europe, Southern Asia, and America. A craving for salad and green food is of general occurrence among us, especially in Spring-time, and a distinguished foreigner, in a little volume recently published gives us good reasons for our longings in this direction.—at least in the matter of Water-cress. It appears that in this humble weed we have a valuable medicine chest whose contents possess the additional merit of being palatable. Here is the sapid oil which all the Crucifers have in a greater or lesser degree, but mingled in this case with sulphur and nitrogen, such as one meets with in the onion. Next, a bitter extract—not so bitter as to be distasteful, but only sufficient to act as a pleasant and gentle tonic. Then, in notable quantities, are iron and iodine, thus superseding the unpleasant absorption of irky mouthfuls of the syrup of iodide of iron. It is not to be wondered at, that by natural intuition we have found out that the Water-cress is an excellent anti-scorbutic.

The commercial importance of the culture of this plant cannot be slight, inasmuch as it is calculated that the average daily supply to Paris of Water-cress amounts to 2000 dozen bunches, "filling eight to ten small carts, and representing a money-value of \$500." Water-cress is indigenous to this country, and may be successfully cultivated by almost any one possessing a running stream of spring water, whose bed is not too deep or too muddy.



**Curvilinear Roofs.**

This is a form often given to the more highly finished class of grape houses. It possesses some advantages, and, when neatly constructed, presents a handsome appearance. But there is another form originated and adopted some years ago by Ellwanger & Barry of Rochester, and which is shown in the accompanying cut, and which appears to be a decided improvement. The base walls, on which the frame rests, are perpendicular; and the lower part only of the frame is curved. This form gives it a neater and less heavy appearance, and is more easily and cheaply constructed. It is occupied as a cold graperly, and is 70 feet long, 14 feet high and 16 feet wide. Having often admired its external appearance, we present the above representation to our readers.—*Country Gentleman.*

**THE BEST GRAPES**.—The Fruit Growers' Society of Western New York balloted for the best varieties of hardy grapes, and out of thirty one votes, the following were the only ones that had more than ten—those receiving the greatest number standing first in order: Delaware, Diana, Isabella, Hartford Prolific, Concord, Creveling.

**A REMARKABLE GRAPEVINE**.—Messrs. Editors—I called on Mr. Williams of Central Bridge, a few days since, and while looking over his fine farm my attention was attracted to a grapevine, which surpassed anything in size I ever before met with. It was called the "Clippeburg grape," and measured 25 inches in circumference around the trunk, and covers a space of 60 feet one way and 41 feet the other. It bore last season 227 lbs. of grapes, from which were made 95 1/2 gallons of wine.

**PROFITABLE CHERRY CULTURE**.—A correspondent of the *Boston Advertiser* has the following account of large profits, made at small cost, in cultivating berries:—"Having a piece of swamp land of muck bottom, with a depth of from one to ten feet, I procured a few roots of cherries from a neighbouring meadow, and stuck them out rather carelessly some few years since, and that is all the care they have had. This season they bore abundantly. When picked we found by actual measurement that the product was just five pecks to the square rod. These sold by the bushel for four dollars, amounting to five dollars per rod, multiplied by one hundred and sixty amounts to the snug little sum of eight hundred dollars per acre. This land has had no other care, except that it is flowed in winter for cutting ice."

**THE COMMON PEACH CROP**.—The *Rural New-Yorker* states that in the vicinity of Rochester, most of the fruit buds of the peach have escaped injury from the severe cold of the present winter. This is doubtless owing to the protection afforded by proximity to Lake Ontario, and the same protection has probably been extended to the belt of land along the border of the lake, through Wayne, Monroe, Orleans, and Niagara counties. The crop is reported to be destroyed at Canandaigua, and the destruction has extended east through Cayuga county. A recent letter from ISAAC PULLEN, of Hightstown, N. J., states that he thinks all the peach buds outside the orchard house, are killed in that State by the cold snap of the 5th of Jan. He adds: "I have an orchard of some 6,000 trees in Caroline Co., Md., that averaged about one-half uninjured. Several peachmen from Middletown and Smyrna, Del., say they think one-third or one-half of their peach buds are good yet. A letter from a friend at Rosemond, Ill., informs me that the last cold snap has destroyed all the peach buds in the neighborhood. The mercury fell to 15 deg. below zero at his place. Here it was but 12 deg. below, which was lower than since the year 1835."

**CULTURE OF THE STRAWBERRY**.—The *Country Gentleman* gives extracts from the report of a committee appointed by the New-York Farmers' Club to visit, on a tour of agricultural inspection, some portions of New-Jersey. At Hammonton, which is midway between Philadelphia and Atlantic City, they found large plantations of strawberries. Last year the crop sold for more than \$10,000, and double the amount is expected next year. The favourite variety is Wilson's Albany. The Committee state, that instead of being short-lived, it is found to do well for five years. This is doubtless owing to the system of cultivation. The rows are three feet apart, and the plants fifteen inches in the row. All the runners are kept carefully cut off from bearing plantations. Runners are allowed only for producing new plants. Weeds are scrupulously kept down, with the plough, cultivator and hoe. The earth is thrown towards the plant every year, and fresh roots are thrown off from the old ones. Kept closely sheared of their runners, they form very large stools, single hills often producing a pint at a single picking. The Committee was told that it was not uncommon to see an acre of ground covered with a dense growth of native brush one week, and the next cleared off and set out with strawberry plants. All this land requires artificial enriching, which is chiefly effected by means of the green sand marl and manure.

**ONION CULTURE**.—A correspondent writes us that himself and some of his neighbours are "thinking of going into the onion business," and want information about preparing the land, culture, profits, &c. In the first place, as a new beginner, we advise our correspondent not to go into this business too heavily the first season. In the next place, we advise him to invest a small sum of money in procuring a good treatise on onion culture. Most of the work about this crop is hand-labour. After the seed is sown a horse has no place in the onion field. A piece of ground should be selected that has been well cultivated the previous year. It should be free from weeds, stone, all other obstructions, and the soil should be dry, rich, and of a kind that can be kept loose, and easily pulverized. Neither a light sand nor a heavy clay are suitable soils for this vegetable. Make it rich with fine, well rotted compost manure. Plough and harrow until it is fine and mellow; then rake it down smooth with the garden rake. Sow the seed in drills from twelve to fifteen inches apart, as early in the spring as possible. Early sowing is highly essential to success. Five to six pounds of seed will be sufficient for an acre. It will require a good deal of labour to keep the weeds down, and till the crop well. Without the most thorough cultivation, however, we cannot expect an abundant harvest. A top-dressing of ashes after the seed is sown, is an excellent stimulant to the crop.

## British Cleanings.

### Mark Lane Corn Exchange, London.

The accompanying illustration presents a view of the interior of this celebrated British grain mart, on a business day, the figures introduced being eminently characteristic of the usual frequenters of the place.

With little appearance of driving and hurry, an immense amount of business is transacted in Mark Lane, in a very short space of time. The cars of the visitor are in no danger of being rudely assailed by the bickerings of a noisy bargain; nor does he discern the least trace of commercial sternness in the aspect of the Corn Exchange. But because everything is not shout and bustle and perspiring hurry, it by no means follows that an immense amount of business is not transacted. The operations of each market day especially Monday—present an imposing appearance when represented by figures, and clearly prove that it would be a grievous error to suppose that it was all play and no work at the London Corn Exchange.

The magnitude of the transactions at this mart has been enormously increased since the repeal of the Corn Laws. No further back than the beginning of last century there was comparatively speaking, no regular corn market in London. Corn was certainly sold at a special place—to wit, Bear Quay, in Thames Street; and flour at Queenhithe and at Holborn Bridge. At that period, however, the factorage or agency system was all but unknown; and business operations, as compared with those of the present day, were, in consequence, transacted at a much greater expense and with much additional inconvenience. The introduction of the system was due, we are told, to some Essex farmers. It appears these worthies "were in the habit of frequenting one of the roomy old Whitechapel inns, and for convenience sake they fell into the custom of leaving samples of their produce with the landlord, and of paying him a commission for selling it for them." This Whitechapel innkeeper was thus the first London corn factor, or intermediary between buyer and seller. This idea was soon adopted and acted on by others. Shrewd men saw that here was a new business to be opened out; and corn-factors accordingly grew apace. As they established their stands in various parts of the city—wherever, in fact, it best suited their

convenience—people in time found that trade would be greatly facilitated if all these stands were brought to a common centre. In order to accomplish this, Mark Lane Corn Exchange was erected in the year 1747. For the better part of last century, the market remained without enlargement; but as the grain production of the country increased, and trade in grain, in a proportionate degree, extended, it was found necessary in the year 1828 considerably to extend Mark Lane Market. Even at the present day, although the Corn Exchange has again been enlarged since 1850, the want of sufficient accommodation, both for the factors and the public, is a source of much inconvenience. Individuals may still be seen, as of yore, doing business in taverns, in the street, and under gateways in and about Mark Lane. Whether, however, this arises from erratic taste or from harsh necessity, we are not in a position to say.

"It may sound somewhat paradoxical," says an English magazine, "but it is nevertheless strictly true, that one of the most striking evidences of the amount of business transacted on the London Corn Exchange is to be seen when the operations of the day are over, and buyer and seller have alike departed. While transactions are actively proceeding, the visitor must be struck with a habit indulged in by every regular frequenter—that of dipping the hand lightly into the nearest sample-bag, tasting one or two of the grains taken out, and allowing the rest to fall to the ground. This very innocent amusement materially assists in a result which, under the circumstances, can scarcely be regarded as surprising. The floor becomes thickly

use, and that the only object of removing them is to throw them into the dusthole. Oh, child-like simplicity and ignorance! Those sacks will each command a respectable price at the corn chandlers; and if they were ten times more numerous they would only too eagerly be snatched up. And what then, you ask, is done with them? What is done with them? Do you keep (to paraphrase Mr. Thorley's advertisement), do you keep chickens, ducks, pigs, or calves? If you do, assuredly there is no need to ask that question. Why these sweepings not only find a ready sale, as food for the animals above-named, but there is such a wide demand for them that they are actually manufactured (I know of no more appropriate word) in order to meet that demand! Yes! it is even so. Corn market sweepings are as regular an article of commerce as pickling vinegar or split peas, and can be obtained to any extent just as readily."



CORN EXCHANGE, LONDON, ENGLAND.

strewn with every kind of grain, oats generally predominating, owing to the larger quantity contained in the sample-bags sent to market. While the place is crowded with people the full extent of the deposit is so far apparent that you appear to be treading upon some incongruous compound resembling pease-pudding, but to thoroughly estimate its amount you must see it when everyone has left. Let us have a peep, therefore, at the market now that business is over. The place is in the sole possession of the officials, and they are vigorously sweeping the strewn grain into heaps. Very pretty little heaps they are, too, and yonder sacks, twelve to fourteen in number, will soon be filled with them. A few minutes more, and the work is done—the sacks are filled. And now, in the innocence of your heart, you perhaps imagine (not being as familiar with grain as le pere Goriot) that these sacks of corn-market sweepings are of no earthly

**Poultry Disease.**—We learn from the *N. B. Agriculturist*, that "at Trowbridge, in Wiltshire, a disease has broken out amongst the fowls. They are affected with spasms, a yellowish mucous ruis from their beaks, and their combs turn black."

**Increasing the Milk of Cows.**—A correspondent of the *Mark Lane Express* writes that journal on this subject as follows:—"I have this winter tried steaming chaff for cows, that is chaff proper, cut with hay, oat, wheat, barley, and bean straw, with the addition of 2 or 3 lbs. of rape cake per cow, and a little malt dust, literally doubling the yield of milk from three cows, all naturally decreasing their quantity. One of the advantages is—that any food left in the manger may be returned to the steamer, and mixed with the fresh supply, so that there is no waste. In these times those who are not aware of the effect of steaming may be glad of the hint."

## The Household.

### Homedale Farm.

AN IN-DOOR TALK ABOUT OUT-DOOR WORK.

THE children were much interested in the working of the ploughs, and the explanations Mr. Perley had given them, as they watched the breaking up of the garden ground. At the dinner table the subject was resumed, and a very pleasant conversation held, in the course of which the young folks asked a number of questions about the kind of ploughs used in ancient times, and in foreign countries, also about the benefits of ploughing, and the best ways of doing it. Naturally enough, they branched off into quite a talk about farming in general.

Mr. Perley seized the opportunity to convey as much information as possible to the eager young minds about him, and especially sought to instil into them, some of the principles upon which successful farming is based. "Ploughing," he remarked, "is the most important operation carried on upon a farm, and, therefore, children it is well you should know all you can about it. Seed would be wasted if scattered on the hard ground. The land must be softened and made powdery, so that plants may freely grow in it. Not only does ploughing do this but it lets air into the soil, which both supplies a portion of plant-food, and helps the small roots to take up the nourishment contained in the soil itself. Ploughing mixes the different substances found in the soil and makes them act on one another; it covers up manure and keeps it from being wasted; it also kills weeds, and turns them under, so that they enrich the ground instead of making a poor supply of food; it extends these benefits to a great depth, and makes land more fertile."

"Did people always have such ploughs as they have now, papa?" asked Lucy. "No," replied her papa, "and in some countries even now, they are without such ploughs as we use. The ancient Egyptians and Hebrews had only a rude, homely, wooden plough. In the present day, very much the same implement is used in Asia, and even in the south of Europe. The Polish plough is little or no better. The Turkish plough is a slight advance upon it, and has a share like a claw armed with iron. The Spanish plough is thought to be like the one which the ancient Romans used, and is a stronger, more effective implement than those just named. After dinner, you shall see some pictures of these ploughs, which I have in a book. They will show you how much better off we are who live in this age and country." "Can they raise good crops with such poor ploughing," asked Charles. "By dint of hard work, and going over the ground several times," said Mr. Perley, "the soil can be made pretty soft and mellow, even with such wretched tools. They do very well in the rich mould on the banks of rivers, where good crops are yielded with but little fatigue. But on tough land the poor ploughmen have no easy task of it. They must go over the ground from five to fifteen times, and even then the work is very poor, not much better than if a drove of hogs had been rooting it with their noses. Yet, notwithstanding, all, some of the ancients were excellent farmers, and the maxims they have left on record, show that they gathered a great deal of wisdom by hard experience and careful observation. When you have looked at the pictures of the old-fashioned ploughs, I will read to you some of the sayings of the Romans and Greeks about farming." "How straight Peter makes the horses go," said George. "his rows aren't crooked a bit!" "No," replied Mr. Perley, "Peter is a first-rate ploughman, and does good straight work." "I don't see how he does it so nicely," responded George. "I should go all zig-zag, if I were to try I'm sure." "Very likely you would," said Mr. Perley, "and some who have ploughed a great deal have never learnt to go straight.

It requires attention and practice, but many are too careless and heedless to do their work well. A farmer should have some pride about his ploughing, and indeed all his farm operations. Whatever is worth doing at all is worth doing well. Many ignorant clod-hoppers can make beautiful, straight furrows in ploughing, while many men of good sense and wide information, are content to leave their furrows looking like the path of a snake." "Is that what serpentine means, papa?" asked Lucy. "Yes my dear," replied Mr. Perley, "and while some things look best serpentine, as for instance the course of a stream, or a gravel-walk, serpentine ploughing looks very slovenly and bad."

Dinner over, the pictures of ancient and modern ploughs were duly inspected, and all agreed that Canadian ploughs were far better tools to work with than the clumsy looking implements made by the ancients, and still in use in some benighted parts of the world. According to promise, Mr. Perley then read to them some extracts from Roman and Grecian authors about farming. Here they are:—

"No man can be a farmer until he is taught by experience; observation and instruction may do much but practice teaches many particulars which no master would think of.

"Before we begin to cultivate the soil, we should notice what crops flourish best upon it, and we may even learn from the weeds that it produces, what it will best support. It cannot be ploughed too much; for the object is to let the earth feel the cold of winter and the sun of summer, to invert the soil, and render it clear, and light, and free from weeds, so that it can most abundantly afford nourishment to the crops. Weeds should be carefully rooted out, for they keep the ground from receiving the full benefit of the air and sun. Plants and green crops raised for the purpose, should be ploughed in, for they enrich the land as much as manures.

"Good tillage is in the first place, to plough; in the second, to plough; the third, to manure; and furthermore to sow plentifully, and choose the seed cautiously, and remove as many weeds as possible in the season.

Collect manure from every source. Study to have a large heap. Let it be placed near the barn, and let the bottom be hollowed out to retain the moisture, and the sides and top be defended from the sun by twigs and leaves. The manure from the pigeon-house is the best. Let it be pulverized and sowed upon the crop, and mixed with the surface-soil by ploughing or hoeing. The manure-heap should remain a year before it is fit to use. Let no more be put on than can be covered the same day. Frequent and moderate manurings are better than occasional and very abundant ones.

"If you cannot sell your wood and twigs and have no stone to burn into lime, make charcoal of the wood, and burn the twigs and small branches in the corn fields. Land that has been well manured with wood-ashes will not require manure for five years. Let the stubble also be burned or ploughed in. Lime is especially good for vines and olives. Lupines cut green and buried at the roots of fruit-trees that do not thrive well are valuable. Crops that are sickly should have sowed over them powdered cleanings of the aviaries or poultry-houses.

"Let not the ground be ploughed when wet, and let the furrows be equal in breadth and straight, so that no balks be left. It should be ploughed three times before sowing, and stiff ground sometimes as many as nine times. Corn land should be of good quality, two feet in depth, and the furrows should not be less than nine inches deep. Soils that are too fat, or too lean, or light or stiff, should have soils of other qualities mixed with them. The best soil is of a blackish colour, sticky when wet, and crumbly and friable when dry.

"If water stands on the top of the ground, or there are springs under the surface, they must be let off by drains. For wet-bottomed lands, make drains three feet broad at top, four feet deep, and a foot and a quarter wide at the bottom, and put a layer of stones in, or a large rope of twigs pressed firmly down and covered with leaves or pine branches, and then throw in the earth. They may sometimes be filled with gravel, or flint, or straw ropes to within eighteen inches of the top. The open drains must be made sloping and kept clear.

"Land that is rich does not need to have water flowed over it, because the crops that grow on a juicy soil are richer than those raised by flowing them with water or irrigation; but when the soil is poor, water may be profitably used. The best fields for watering are those that descend gently, so as to prevent the waters from remaining long, and allow it to flow off without violence. If there are hollows where it collects and stands, it must be let off by drains.

"Old meadows should be renewed by ploughing and sowing with grain three years, and then laid down again with vetches and grass-seed, and again watered,

but not abundantly, till the ground becomes firm and bound together with turf. Water should be turned off from meadows when the flower-stalks appear.

"In most cases the land must lie fallow after each crop of grain; but, when manure can be got, two crops may be taken off in succession, and only on a few peculiarly rich soils can a crop be raised every year. Before fallowing, let the land be ploughed after harvesting the crop, and again cross-ploughed in the spring, and a third time at least before sowing.

"In sowing, swing the hand with the step of the right foot. The grain and leguminous seeds should be covered with the plough, and if so covered as to come up in rows, it can be easier hoed; the smaller kinds of seed may be covered with harrows, or rakes and hoes. If the weeds get large before hoeing, they must first be cut or pulled up by hand, then the smaller ones destroyed with the hoe. Grain should be hoed twice, and beans and peas three times.

"The first time the earth should be hauled up to the plants, but not afterward; for when the plants cease to tiller, they rot if the stalk be covered with earth. When the plants first appear, or have only put forth two or three leaves, plough between the rows. If the crop is too luxuriant, let it be pastured, or drag a harrow over it, pasture it, and then sow it.

"Let the farmer's maxim be, sow less land and plough better. A large farm to admire, but a small one to cultivate. Have acres weaker than workers. Where the master's eyes fall oftenest the increase is greatest. A good husbandman never buys what he can raise, nor on a good day works more in-doors than in the field."

"All these wise things," remarked Mr. Perley, "were said two thousand years ago, so that it is plain there were good farmers in those days, though they had but poor ploughs. The Romans regarded farming as a most honourable and important pursuit. Some of the noblest men of that nation worked with their own hands as farmers, and were esteemed the more highly for it by their fellow-countrymen. Cincinnatus, who was chosen supreme ruler of the Empire, was found busy ploughing when the messengers went to tell him of the honour done him. His was 'a little farm well tilled,' for he had only four acres. Curius, another noble Roman, had an estate of the same size, which he cultivated himself. Either of them might have written a book like that entitled, 'Our farm of four acres, and what we made by it.' Fabricius, Regulus, and other noted Romans, were farmers."

Mr. Perley also read to them a couple of short stories. One was about a vine-dresser who had two daughters and a vineyard, and when the eldest was married he gave her a third of his vineyard, and still he grew as much fruit as before. When the other daughter was married he gave her another third, and put all his labour and manures on the third that was left, which gave him as large a crop as the whole had previously done. The other story was about a farmer who raised so much better crops than his neighbours that they accused him of witchcraft, and had him arrested and brought to trial. At the trial, when the officer read the accusation, the farmer brought into the forum or court, and exhibited a stout daughter, and excellently-made iron spades, shears, ploughs, rakes, and sickles, together with his oxen, and said, "These, O Romans, are the charms by which I have wrought witchcraft." His defence was considered quite sufficient, and he was acquitted."

Thus a long dinner hour passed away very pleasantly, and the little Perleys learnt some lessons about farming, which they were not likely soon to forget.

(To be continued.)

WHAT SHALL WE EAT?—This is an important question in these times of high prices. Dr. Hall, in a late number of the *Journal of Health*—good authority, by the way—says the cheapest articles of food at present prices are bread (especially corn meal), butter, molasses, beans, and rice. He shows that twenty-five cents' worth of flour, at eight cents per pound, contains as much nourishment as \$2.25 worth of roast beef at twenty-five cents per pound; and that a pint of white beans, costing seven cents, has the same amount of nutriment as three and a half pounds of beef at twenty-five cents per pound; or in other words, the roast beef diet is twelve times as expensive as the beans. Furthermore, a pound of Indian meal will go as far as a pound of fine flour costing nearly twice as much.

Advertisements.

FLOUR OF UNBURNED BONE.

MANUFACTURED only by THE BOSTON MILLING AND MANUFACTURING CO., Patented and Sole Owners of the only machinery by which Flour of Unburned Bone can be made...



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BRIGGS & BRO., Rochester, N.Y.

Who have the exclusive right to sell this article, wholesale and retail, in that territory.

C. H. GARDNER, General Agent, 16 Cortland St., N.Y.

There are two grades of the Bone Flour, one, (the finest), called Flolated, the other No. 1. The following are the prices, subject to freight from New York or Boston:

Table with 2 columns: Price and Quantity. Includes items like 'No. 1' flour in 2,000 lbs tons, 'No. 1' flour in half tons, and 'No. 1' flour in 200 lbs barrels.

To accommodate amateurs, lady gardeners, florists, &c. the Flour of Bone will be put up in packages for \$1, \$2, and \$3, and sent by express.

To save expense in freight, to customers, the Flour of Bone will be shipped from the Mills in N. Y., or Boston, direct to them.

Pamphlets giving prices, directions for use, analysis, testimonials, &c. sent free to all applicants.

TESTIMONIALS:

- 1. Few substances have of late years done so much to increase the agricultural products of England as crushed bones for manure.
2. Bones, when finely ground, constitute one of the most permanent manures.
3. One advantage this has over barnyard manures is that it contains no foul seeds.
4. I have found ground bones the very best and cheapest fertilizer to be obtained.
5. Bones are of no value to crops until decomposed.
6. Flour of Bone - Ever since its character became known to me by examination and use, I have persisted in its recommendation as the most economical concentrated fertilizer farmers can purchase.
7. I have long used reduced bone, especially for grape vines, for which it is one of the best special manures in use.
8. For fruit culture I consider the Pure Unburned Flour of Bone, the best and safest fertilizer.
9. E. G. Gordon wants a substitute for manure, for top-dressing grass land.
10. I tried several tons of Flour of Bone, and the result was most satisfactory.
11. Hop growers - I would recommend the use of one-fourth pound of Flour of Bone in each bush of hops.
12. This superior manure has been thoroughly tested - not like too many advertised preparations, that on testing will not bear the trial.

FRUIT AND ORNAMENTAL TREES.

TORONTO NURSERIES.

THE Proprietor of the Toronto Nurseries begs to call attention to the large and excellent stock of Fruit and Ornamental Trees which he offers for sale this spring.

The Fruit Tree Department is composed of large quantities of the following articles: Standard and Dwarf Apples, Plums, Pears, and Cherries, Gooseberries, Currants, Raspberries, Hardy and Foreign Grapes, Strawberries, &c., &c.

FARM AND GARDEN SEEDS.

THE Subscribers have now a full and general stock of all kinds of

GARDEN AND FIELD SEEDS,

Descriptive Catalogues of Garden, Field, and Flower Seeds, with useful hints on Sowing, &c., are now ready, and may be had gratis here, and forwarded free by post on application.

Merchants and Dealers in Seeds supplied on the most reasonable terms; they are invited to send for our Trade List before ordering elsewhere. Boxes of Garden Seeds, containing 200 papers each, supplied on Commission. Discount liberal.

JAMES FLEMING & CO., Seedsmen to the Agricultural Association of Upper Canada, and Board of Agriculture, Toronto. Toronto, April 1, 1866.

NEW SEEDS.

PURE AND FRESH, -sent by mail to any part of Canada. First Prize for Annuals at Provincial Exhibitions of 1864 and 1865, and Union Exhibition, Toronto, 1863.

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SUPER-PHOSPHATE OF LIME,

\$40 PER TON.

SUPER PHOSPHATE OF LIME, a highly concentrated Manure, prepared so as to give a greater quantity of the soluble phosphates, &c., and, as manufactured by us, contains in combination all the ingredients necessary to the nutrition of plants, and to the fertilization of soils.

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Screws, Hoops, and Presses, Complete. Vat-Couplings and Taps of all sizes on hand, and manufactured at the lowest prices.

WHITELAW & MURHEAD. OXFORD FOENDRY, BEACHTVILLE, April 1, 1866. v3-7-21.

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CASH Paid for any quantity of Bones, delivered in Boston, or at our Bone Flour Manufactory, in N. Y. Address, C. H. GARDNER, AGENT Of the Boston Milling and Manufacturing Co., 16 Cortland St., N. Y. v3-7-11.

THE DIRECTORS OF THE COUNTY AGRICULTURAL SOCIETY,

PREMIUM OF \$40.00,

(To which the Township Society of the Township of Sydenham will add \$5.00), for the

BEST AGRICULTURAL STALLION

THAT has not served in the County of Grey before, that may be shown at the town of Owen Sound, on the 27th day of April, 1866, at noon, provided such animal shall meet the approval of the Directors, and serve within the Township of Derby, Sydenham, Sullivan, Holland, and St. Vincent, and the town of Owen Sound, during the coming season.

Owen Sound, April 1, 1866. THOMAS GORDON, Secretary. v3-7-21

PRIZES! PRIZES! PRIZES! PRIZES! PRIZES!

CANADA AHEAD, THE WORLD OVER!

THE BEST TOOL IS THE CHEAPEST

A. S. Whiting & Co., Oshawa, C. W.,

Manufacturers of the Celebrated Premium

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THE superior excellence of these Tools is indicated by their high and unequalled popularity, and its rapid growth. Every article from this establishment is SPECIALLY MADE FOR USE. They have invariably won the HIGHEST HONORS at Exhibitions, and amongst their many prizes are the following:-

- First Prizes at Provincial Exhibition in Toronto... in 1858.
First Prizes at Provincial Exhibition in Kingston... in 1859.
First Prizes at Provincial Exhibition in Hamilton... in 1860.
First Prizes at Provincial Exhibition in London... in 1861.
First Prizes at Provincial Exhibition in Toronto... in 1862.
Did not exhibit, there being no competition at the Provincial Exhibition in Kingston... in 1863.
First Prizes at Provincial Exhibition in Hamilton... in 1864.
First Prizes at Provincial Exhibition in London... in 1865.

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The Proprietors have also the honor to state that these Tools obtained the FIRST PRIZE AT THE WORLD'S FAIR or Exhibition of all Nations in London, England, in 1862, for which they now hold the Bronze Medal. Also First Prize and Medal at the International Exhibition in Dublin, Ireland, in 1865, at which they were specially commended for "their excellence of manufacture and their moderate price."

Caution to Farmers.-As every tool of this make is thoroughly reliable, purchasers should always be particular in seeing to the stamp, (A. S. Whiting & Co., Oshawa, C. W.,) to make certain of getting the genuine article.

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VETERINARY SURGEONS practising in Canada, holding Diplomas of any recognized schools, are requested to send their names and addresses, and also the Colleges in which they studied, and the date of their Diplomas, with a view to publishing a list of the members of the Profession in Canada.

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THE above amount will be paid by the South Waterloo Agricultural Society, to the first estate-hed Cheese Factory within the South Riding of the county of Waterloo, the same to be of the capacity of not less than two hundred cows.

The Annual Fall Show of the above Society will be held in Preston, on Wednesday, the 3rd of October, 1866.

WM. A. SHEARSON, Secretary & Treasurer. Galt, April 1, 1866. v3-7-11.

J. H. THOMAS' FIRST-PRIZE BEE HIVES

MAY be sent safely to any part of Canada. We are daily sending them to all parts of the Upper and Lower Provinces, and even to Nova Scotia and Cape Breton, and the demand is increasing. Send early. All orders for Hives, Bee Licks, &c., promptly attended to.

The territory of the Lower Province will be sold cheap, as we have sufficient in Canada West for our own purposes. v3-4-11. J. H. THOMAS & BROS

GALLOWAY BULLS.

I HAVE for Sale TWO YOUNG GALLOWAY BULLS - "Logan," 17 months old, and "Cariboo," 12 months.

JOHN SNELL, Edmonton P. O. Chinguacousy, March 5, 1866. v3-6-21

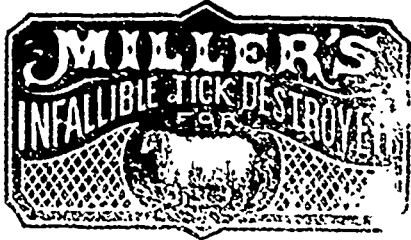
THE PEOPLE'S BEE HIVE,

IN its simplest form, and with all its attachments, is adapted to all - those who visit their bees rarely, and those who attend to them often.

"Our attention was called to a new invention for the housing and proper management of bees, the property of A. N. Henry of Oshawa, who has recently taken out a patent for his invention. Every difficulty with which the manager of the bee has to contend appears to be obviated by this ingenious hive, which to our mind includes every convenience for the proper management of the profitable little insect. We wish Mr. Henry every success with his enterprise." - P. H. Guide.

Price of Single-Walled Hive, without Miller attachment, \$2; with, \$3. Double-Walled Hive, \$4.50. Right only \$1 if bought with the first Hive, otherwise, \$2. For Hives or Circular, address, A. N. HENRY, Oshawa, C. W. v3-7-11.





A CERTAIN cure for Tick, and all skin affections in Sheep. No flock master should be without it. Prepared only by HUGH MILLER & CO., Chemists, Toronto.

HOVEY & CO.'S ILLUSTRATED CATALOGUE AND CULTIVATOR'S GUIDE TO THE Flower and Vegetable Garden, for 1866 IS NOW READY.

THE THIRTIETH EDITION of our CATALOGUE is greatly improved and enlarged to upwards of one hundred and twenty pages of small type, and is illustrated with more than Fifty New and Beautiful Engravings of the most popular and showy flowers, and several of the novelties of 1866, now offered for the first time in this country...

ENGLISH COSEBERRIES. 10,000 IMPORTED ENGLISH COSEBERRIES for sale at the Toronto Nurseries, at \$2.50 per dozen, and \$12.50 per 100. GEO. LESLIE, Lettie P.O., C.W.

IMPROVED FARMS OF various descriptions, in the COUNTY OF PETERBOROUGH, ONT., FOR SALE ON EASY TERMS.

UNIMPROVED FARM LOTS, Adjoining a settlement with Grist and Saw Mills, Post Office, Store, schools, &c., at ONE DOLLAR PER ACRE. For particulars apply to CHAS. JAS. BLOMFIELD, Secretary to Canadian Land & Finance Co., Toronto Bank Buildings, Toronto.

WILSON'S EARLY BLACKBERRY, THE first and best and most productive ripe before any other Blackberry yielding its whole crop in the shortest period between Raspberries and other blackberries just the time when fruit is scarce and brings the biggest price.

PHILADELPHIA RASPBERRY, For hardiness and productiveness, is unequalled, bearing the extreme cold of Minnesota without injury, and yielding in that latitude a splendid crop of fruit, it has produced here over 200 bushels per acre. 20 ALLES IN STRAWBERRIES—best varieties. Send for Catalogues gratis. WILLIAM PARRY, C. Hamilton, Burlington Co., New Jersey.

LANDS FOR SALE. TWENTY THOUSAND ACRES OF LAND, both wild and improved, and at all prices, for sale in various townships throughout Upper Canada, cheap and on easy terms. For lists and particulars, apply to the proprietor, T. D. LEDYARD, Barrister, &c., South west cor. of King and Yonge-sts., Toronto, Oct. 2, 1864.

Markets.

Toronto Markets.

"CANADA FARMER" Office, March 29, 1866.

There has been but little animation in general business since the date of our last issue. During the last few days, however, the production market exhibited signs of increased activity. Wheat has rather an upward tendency for choice grades. The demand for flour has gradually fallen off, and the market is quiet. Barley is dull, malts and brewers being generally in good supply. The cattle market has been well supplied with choice Eastern cattle and sheep, and prices have advanced for the Eastern market. We noticed a choice lot bought by Mr. Jas. Britton, Arcade, of six three-year old heifers, fed by Mr. James Davidson, Whitby, which sold at \$500, four steers, fed by Mr. James Mitchell, of Whitby, at \$100, and eighteen first-class sheep, fed by Mr. Miller, of Pickering, at the large sum of \$17 each.

The following are quotations of the prices of produce, &c. — Flour.—Few transactions; No. 1 \$5 00 to \$5 15; Extra, \$7 to \$7 25; Double Extra, \$7 75 to \$8 25. Fall Wheat—Selling on the street from \$1 30 to \$1 40. Spring Wheat—The street price is from \$1 08 to \$1 11. Car loads, \$1 10 to \$1 12. Barley—No transactions of importance. Prices range from 65c to 62c; prime loads at 64c. Oats—In good supply and selling at from 62c. to 66c, according to quality. Oats—Car loads sell at 30c to 32c; street price from 30c, to 33c. Rye—Unchanged and nominal at 56c. to 60c. per bushel of 56 pounds. Buckwheat—0c. to 55c. per 48 lbs. Provisions—steady. Dressed Hogs—Prices nominal; selling at \$7 50 to \$8. Pork unchanged. Mess, \$22 to \$23 per barrel; prime mess, \$20 to \$20 per barrel. Hams, \$13 to \$14 per 100 lbs. Lard, 12 1/2c to 13 1/2c. Bacon in demand at 10c to 11c per lb. Beef, \$11 to \$12 per 100 lbs. Butter in good demand. Selling at 17c to 19c for store-packed butter; choice dairy, 21c to 22c per pound. Cheese in fair demand at 14c. to 16c.; American prime, 13c to 15c. Eggs in good supply at 15c to 17c. Dressed Beef—\$5 25 to \$5 75 per carcass. Potatoes—Unchanged. Cajs sold at 30c to 35c; other varieties, 25c to 30c. Hay—\$8 00 to \$9 50 per ton. Straw—\$5 to \$6. Live Stock—The figures here given are offered by the butchers and drovers in this market per 100 lbs., dressed weights. Cattle—1st Class, \$7 to \$7 50, do. 2nd class, \$5 to \$6 00. Inferior, \$4 50 to \$5. Calves, each, \$5 to \$7; Sheep, prime, heavy, each, \$6 to \$7, do. light, each, \$4 to \$5; Spring Lamb, each, \$3.

Hamilton Markets, March 23.—Fall Wheat, \$1 20 to \$1 21. Spring Wheat, \$1 to \$1 12 1/2. Barley, 60c to 62 1/2c. Peas, per bus, 60c to 62c. Oats, 33c. Beef, per carcass, \$6 75, hind quarters, \$7. Pork, per 100 lbs., \$7 to \$7 75. Eggs, per doz, 12 1/2c to 15c. Butter, per lb., 15c to 20c. Apples, per bag, 75c to \$1. Hides, per cwt., \$5; dry hides, 10c per lb. Calfskins, per lb., 8c to 10c. Tallow—W. H. Judd & Brother's prices—rough, per lb., 6c. Hay, per ton, \$7 to \$9. Straw, \$2 25 to \$3 20.

Quebec Markets, March 27.—Fall Wheat, per bushel, \$1 10 to \$1 35. Spring Wheat, do., \$1 05 to \$1 10. Oats, 25c to 29c. Peas 55c to 60c. Barley, 55c. Hides, per 100 lbs., \$5. Beef, do. \$4 50 to \$6 50. Pork, per 100 lbs., \$7 75 to \$8 25. Straw, per load, \$2 50 to \$3. Hay, per ton, \$8 to \$10. Wool, per lb., 40c. to 42c. Eggs, per dozen, 18c to 20c. Butter, per lb., 18c to 20c. Apples, per bushel, 60c to 80c. Potatoes, per bag, 45c. to 50c. Sheepskins, 75c to \$1 50.—Herald.

Montreal Markets, March 28.—Laidlaw, Middleton & Co., report.—Flour—Receipts, 1,200 barrels, market firm, sales superior \$5 60 to \$5 85, coarse grades quiet, bags wanted, extra nominal. No transactions in grain.

Oswego Markets, March 27.—Flour—Unchanged, at \$8 25 for brands from No. 1 spring; \$9 75 from red winter; \$11 to \$11 25 from white; and at \$11 75 to \$12 for double extra from white wheat. Oats—Wheat quiet, No. 1 Milwaukee club at \$1 75, and choice white Canada at \$2. Corn, quiet; No. 1 Indiana on private terms. Barley, dull and lower; Canada at 95c. Mill Feed—Shorts are selling at \$13 to \$16, shipstuffs at \$18 to \$19, and middlings at \$22 to \$26 per ton.

Buffalo Markets, March 26.—Flour—The market quiet at \$11 23 to \$11 60 for white wheat XX Canada; quoted—western spring, \$7 to \$7 75, Canada bakers at \$8 to \$8 62 1/2, white wheat, XX Western and Canada at \$10 50 to \$11 50. Wheat quiet. Canada Club at \$1 63 1/2. No. 1 Milwaukee spring at \$1 65; white Canada at \$2 20. Corn scarce and in light demand; new western mixed on track, 61c. Oats dull and inactive; western, 25c to 42c, Canada, 46c to 47c. Barley quiet at 60c to 65c for State, and 95c to \$1 for Canada. Rye inactive and nominal at 80c. Hops—Sales two car loads common Canada at \$1. Beans dull, held at \$1 50 to \$1 75. Seeds quiet.

New York Markets, March 27.—Cotton, firmer at 40c to 41c for middling. Flour—Receipts, none; market 10c to 15c better on low grades, sales 8,500 barrels, at \$6 70 to \$7 25 for superfine State; \$7 15 to \$8 25 for extra State; \$7 65 to \$8 15 for choice do.; \$6 75 to \$7 25 for superfine Western; \$7 30 to \$8 15 for common to medium extra Western, and \$8 25 to \$8 60 for common to good shipping brands extra round-hoop Ohio. Canada flour 5c to 10c better on low grades; sales 400 barrels, at \$7 30 to \$8 for common, and \$8 10 to \$11 25 for good to choice extra. Wheat—Receipts 500 bushels; market dull, and nominally unchanged, sales 7,000 bus. No. 1 Milwaukee at \$1 65. Rye quiet. Barley dull. Corn—Receipts 14,123 bushels, market 1c better, sales 36,000 bushels, at 63c to 73c for unsound, and 76c to 76 1/2c for sound mixed Western, both in store and delivered. Oats firm at 30c to 42c for unsound Western; and 54c to 54 1/2c for sound do., 54c to 55c for Canada, 60 for Jersey, 65c to 55 1/2c for State. Pork opened firmer but closed heavy, sales 6,100 lbs at \$20 12 to 26 37 for new mess, closing at \$26 15 cash, and \$24 60 for old do. Beef unchanged.

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