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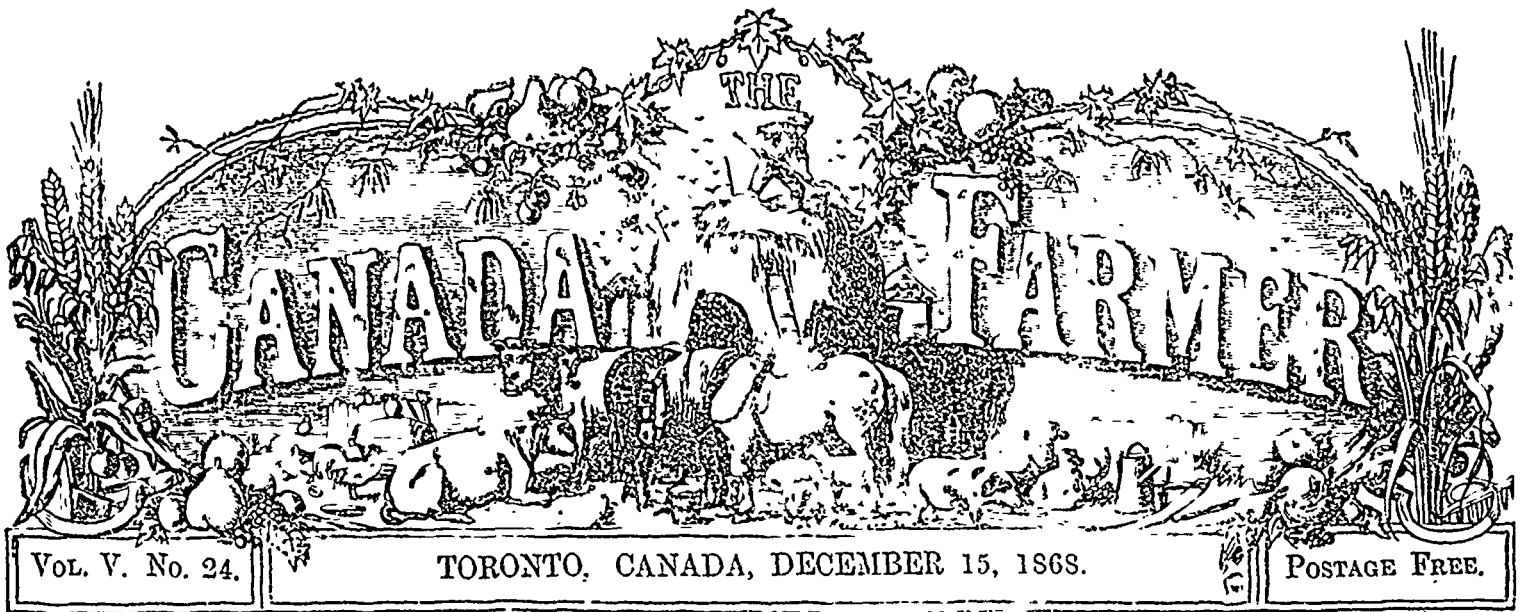
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## The Field.

### Degeneration of Wheat.

THE marked improvement in the breeds of cattle on this continent affords very striking evidence of what may be done by care in breeding and rearing stock; and the same progress in horticulture, as the result of judicious selection and culture, may also be seen in the quality of various fruits that, year by year, are supplied to the market. But in the case of the most important agricultural product, wheat, there seems a constant tendency to degeneration. The virgin soil of this continent, within certain latitudes, usually produces abundant crops of this staple cereal; but after a time, the yield begins to diminish, both as regards the size and quality of the grain and the quantity per acre, till at length, perhaps, its production ceases to be profitable, and new land is sought for raising this almost essential staff of life. Thus the wheat-growing region seems to shift its locality with the tide of emigration, from east to west.

Another somewhat similar fact also challenges attention—that new varieties of this grain, however excellent and prolific they may be, seldom retain their reputation for any lengthened period. After a time, some of them will cease to be grown altogether, and give place to other favorites; and this by no means as a matter of fashion or caprice, for farmers are usually too practical for such folly, but on account of acknowledged degeneracy in the once good variety.

No doubt the reasons for this result are various, and some of them doubtless obscure; yet so important is this crop and the interests connected with it, that no subject in the range of agriculture is better worthy of careful investigation. We are glad to find that the matter is being taken up by agriculturists in the adjacent Republic, and wheat conventions are to be held in more than one of the States, to compare the experience of farmers in various sections of the country, and discuss the important subject in all its aspects.

There is one point which we feel assured is worthy of more attention than it generally receives, that is, the careful selection and treatment of seeds. On physiological principles, and from the results of actual experiments, it is clear that marked and permanent improvement may be attained in wheat, as in other vegetable products, and notably in breeds of animals, by selecting the best samples, and those only, for propagation; and in this selection every important quality should be regarded—the number of berries on the ear, the size of the grain, the quality of the flour, the prolificacy, earliness, and hardness of the variety. In reference to this subject a very interesting paper was recently read at the first meeting of the Botley Farmers' Club, by Mr. Hallet, of

Brighton, England, on "Pedigree in Cereals." Mr. Hallet has for twenty years closely studied and experimented on the growth of cereals, and comes to the following conclusions:—"1. That no two grains of any cereal will produce plants precisely equal, and that, therefore, in any given quantity of any cereal, whether a dozen grains, a pint, or a quart, there is one grain superior in producing power to any of the others. 2. That this superiority is inheritable. 3. That it may, by the repeated selection year after year of the best descendant grain, be greatly increased, and become practically fixed." He illustrated these statements by a variety of examples, and gave an instance in which he had obtained a winter variety of wheat from what had previously only been raised as a spring crop. Had we space, we should be glad to give the whole of the lecture, as reported in *Bell's Weekly Messenger*; but, though we hope to recur to the subject again, we can now only add the concluding paragraph, which is as follows:—"We come now to enquire what is the practical meaning of pedigree? It is this:—We grow a certain crop (say of wheat) of forty bushels per acre, and we wish for more. How is more to be obtained? Can we grow more ears in number, and if so, by what method? Can we sow more seed per acre? No; for if we do we shall obtain green-meal, not corn. But cannot the number of ears produced per acre be increased? No. If we plant single grains six inches by six inches, nine inches by nine inches, twelve inches by twelve inches every way, if we drill one bushel, or 'broadcast' two bushels per acre, we can only obtain about one million ears per acre. The only means of increase, then, is by increasing the contents of the ears, and this I have effected by my system of selection. Thus I have already doubled the contents of the original ears of the three varieties of red, white, and blue pedigree wheat, and these have just the same tendency to produce large ears as pure bred Durham cattle have to produce like progeny. But in order that this power may be freely and fully exercised, each grain must be planted by itself, with a space around it depending upon the time at which it is sown. That the grains should be planted singly is essential, at whatever distances apart they are deposited, for if you make a series of holes and plant one grain in the first, two in the second, three in the third, and so on, you will obtain a greater produce from the hole planted with only one grain than from any other of the holes. The number of ears possible per acre being fixed, the size of the ears depending upon the space allotted to each grain, and the greater the space each grain has to fill the longer the time required for doing it—we come to the necessity of early planting, when only two or three gallons of seed per acre are used, and when the utmost result possible is expected." Mr. Hallet said that he usually sowed seed about six and a half inches apart, and at the rate of eight gallons to the acre.

### Eyer's Ditching Machine.

NOTWITHSTANDING the frozen condition of the ground, this machine was put to trial on Tuesday, Dec. 8th, in Mr. Leslie's nursery, in the presence of a considerable number of spectators, and gave general satisfaction. It continued working for two hours, and in that time dug a drain two hundred yards in length and three feet deep, in a neat and workman-like manner. The construction of the machine is exceedingly ingenious. First of all, there is a frame, like the bottom of a waggon, about ten feet in length, mounted on four wheels of small diameter. To the front of this frame is attached a beam, extending considerably on each side, to which are attached two teams of horses. On the hinder part of the frame the workman stands who regulates the working of the machine, which he does by means of two handles very much like those of a plough. These handles are connected with a wheel, eight inches broad, of great weight, which descends through a hole about three feet from the front of the frame. This wheel is where the working power is situated. Its rim is furnished with a series of spikes so placed that when it turns round—the spikes being forced into the ground by its own weight—they bring up the earth and deposit it in an inclined funnel, through which it passes out to the edge of the chain. The machine digs to a depth of three inches, and by a simple contrivance the heavy wheel is let down so as to dig other three inches, and so on till the proper depth is attained. This Ditching Machine is, we believe, worthy the attention of farmers, though having received information that the trial would not take place, on account of the frost, we had not the opportunity of personal inspection. The above account, however, was furnished by an eye witness.

**DIGGING POTATOES.**—The *Ohio Farmer* says the most rapid potato digging he ever witnessed was done with a common barn shovel. The shovel was driven into the earth beside and under the hill, and a portion lifted out, and by a quick jerk scattered over the surface, entirely separating soil and vegetables, leaving the potatoes clean. Generally two applications of the shovel finished the work upon a hill.

**A NEW CORN HARVESTER.**—At the late Illinois State Fair there was exhibited a machine for harvesting corn, and designed to take the ears from the standing stalks in the field. The apparatus is constructed to take two rows at once. The stalks are taken between projecting metal faced fingers, and as the machine advances the butt of the ear is brought in contact with a short sickle, playing at the rear of the fingers cutting it off, while the stalk passes under the machine without being pulled up; the ears are received into a large hopper at the rear of the machine, and discharged when it is full.

## Veterinary Department.

### The Prevention of Disease.

It would, indeed, be an admirable arrangement, alike for humanity and for the lower creatures of creation, if the ouches and ills which escaped from Pandora's mythic box could be again secured, and locked up beyond all chance of fattening on health and life. To hunt down and exterminate some of the ills that flesh is heir to is perfectly feasible. Others, we fear, must be accepted as part of the primal evil curse. Many ailments, such as those of a scrofulous character, have become very firmly implanted in the animal system, they have assumed hereditary powers, so marked that generations would elapse before their subtle remains could be thoroughly eliminated. Another large class of disease, alike in men and animals, spring from the external circumstances amid which living creatures are placed. Extremes of cold and heat, sudden changes of temperature, overcrowding, and hard work, sap the vigor and jeopardise the health of thousands. Under more careful management, disorders of their class, although they cannot be altogether done away with, might evidently be materially diminished in number and severity.

The diseases which we may confidently hope entirely to blot out, are those which result from contagion. Lord Robert Montagu has stated that since 1842 one million and a half of cattle have been destroyed in Great Britain and Ireland by contagious diseases. The specific organic poisons or contagions which generate such diseases can usually be isolated or destroyed, in other words, fresh subjects on which the poison can fasten may be kept beyond its reach, and thus it is killed, as it were, by starvation, or the poison, as rapidly as it is evolved from the sick or infected animal, is neutralised or robbed of its vitality by disinfectants. As our readers well know, the cattle plague, which is probably the most virulent of the contagious disorders of animals, was in this way banished from our shores.

We would gladly apply the like principles to the prevention of other disorders. But this cannot be done effectually with diseases which, like cattle plague, are propagated mainly or entirely by contagion. In the human subject, the diseases depending upon contagion alone are more numerous than in the lower animals. They include smallpox, scarlet fever, and other eruptive complaints, with the worse class of typhoid and typhus fevers. The eruptive fevers more especially are not productive except by contagion only. In the lower animals the chief contagious diseases which have occurred in this country are cattle plague, cow-pox, and sheep-pox, strangles in horses, hydrophobia in dogs, with the pleuro pneumonia epizootic in cattle, mouth-and-foot disease in cattle, sheep, and pigs, and glanders and typhoid fever in horses. But unfortunately for our success in extirpating these diseases, they do not, like cattle plague, cow-pox, or variola ovina, invariably spread by contagion alone. Under certain conditions they appear to be developed *de novo*. Overcrowding is stated to produce mouth-and-foot disease. Exposure in railway trucks, or in unsheltered pastures during severe weather, is believed to develop pleuro pneumonia, and such cases subsequently assume contagious properties, and become the sources of extensive disease. Glanders in horses more frequently depends upon close foul stables, bad feeding, colds, or overwork, than on contagion or inoculation. Gastric fever and influenza amongst horses, although occasionally spreading by contagion, are more generally traceable to other causes, and form a sort of connecting link between contagious and non-contagious diseases.

Considerations such as these increase the difficulties which stand in the way of our summarily getting rid of diseases like pleuro pneumonia and foot-and-mouth disease. Mr. Barclay, Aberdeen, in his sensible paper, read a few weeks ago before the Scottish Chamber of Agriculture, proposed that efforts should be made to stamp out the pleuro-pneumonia epizootic in the same way as was successfully done with the recent attack of rinderpest, by slaughtering all animals affected, and by a local assessment providing compensation for the stock thus destroyed. Mr. Barclay states that the average loss of animals attacked by pleuro reaches from 80 to 90 per cent. This is much overstated; under rational management one-half of the cases attacked should be saved. But even with this larger proportion of recoveries, it is certainly sound economy at once to slaughter the first cases that appear in any herd, and by segregation and disinfection, endeavor to arrest the further spread of the complaint.

The notable reduction in the ravages of pleuro pneumonia, and also of mouth and foot disease, during the prevalence of the cattle plague and whilst

the movements of stock were restricted, indicate how greatly such disorders might be held in check by preventing the movement of all animals affected by such contagious maladies, or which have been in communication with infected animals. The appearance of contagious disease on any farm, or in any dairy premises, or amongst any sort of stock, should at once be reported to a properly constituted local authority. From infected premises no animal should be removed alive without a special order, nor until the premises be entitled to a clean bill of health. Fines should be exigible for any stock labouring under any contagious disease, and kept without information having been given of the occurrence of such sickness; fines would also be fairly imposed for any diseased stock travelling on any public road, or taken into any market-place or railway station. At market places, fairs, important railway loading stations, should be under strict inspection. In all railway or other journeys extending over eight or ten hours, provision should be made for the feeding and watering of the stock, and for their protection from inclement weather. The attention of the Legislature ought to be directed to the internal arrangement of the stock traffic of the country. We require to be protected from diseases already in our midst as well as from those which threaten us from abroad. *North British Agriculturist*

## The Dairy.

### Cow Management by London Milkmen.

In the Journal of the Royal Agricultural Society, Mr. J. C. Morton thus describes the management of city cows, by the leading London milkmen:

"Having got your cows well purchased, the point of next importance is to feed them properly. Their invariable food in London cow sheds is grains (brewers' or distillers' grain, the spent barley or other grain after being well washed or 'worked out' in the process of brewing and distilling) with mangolds and hay in winter, and grass in summer. When first the cow is received into the shed, it is important that she be gradually accustomed to her new food. She should therefore receive during the first week little but green food, grass or clover, or vetches in the summer, and mangolds and hay in the winter, with bran mashes, into which grains may be gradually introduced, until, as she takes to them, she may at length be treated as the others are. What this management generally is, I take from the statements of two men, neither of them very large dairymen, but both successful managers. Mr. Sumpton, of Little Warner Street, Clerkenwell, who usually milks about thirty cows, describes his day's work as follows:

The women enter the shed at 5 a.m., and proceed to milk. In the case of the wholesale milk trade, when the dealers who buy the milk do the milking, one good man suffices for thirty cows. The cowman then only helps if necessary at milking time, and sees that the work is thoroughly done—his main business being to feed and tend the cows. If he has any reason to suspect that a cow is not milked out, it is his duty to his master to strip her, for nothing injures a cow more than imperfect milking, and if he succeeds in getting another half-pint from her, his master will give him 6d. or 1s. for it, and fine the dealer that amount for his servant's default. When not only milking, but serving the customers at shops and houses has to be done, three men are required for 30 cows. They begin milking at 4 a.m., and finish between 5 and 6. About a bushel and a half of grains is then given between each pair of cows, and they are partly cleaned out, and with the grains are done a truss of hay (4 cwt.) is divided amongst 12. In the meanwhile the men have been serving the milk; after which they have their breakfast (about 8 a.m.) After breakfast time a bushel of chopped mangolds, weighing 50 or 60 pounds, is given to each two cows, and the cows receive another truss of hay amongst 12. The cowshed is then cleaned out, and the cows are bedded and left. At 1 p.m. milking recommences, and very much the same feeding as before is given. At 2.30 grains are given as before, followed by the same quantity of hay, and then (and only then during the 24 hours) the cows are freely watered. They again receive a truss of hay amongst 12, and are left for the night. The grains are either brewers' or distillers' grains; the former are as much inferior to the latter in value as they are in price—the one at present costing 3s. to 4s. a bushel, and the other 5s. and 9d.

In the case of cows in heavy milk—also in the case of those rapidly losing their milk, which must be sent to market as quickly as possible—it is common to give two or three quarts of pea meal mixed up with the grains morning and evening, each cow thus receiving that quantity daily. And when the milking is coming to an end, for three or four weeks before

the cow is sold, she may receive two or three pounds of oil cake in addition. A full bushel of grains, half a bushel of mangolds, one-third of a truss of hay, and five or six pounds of pea meal, in the case of the fattening cow, are thus the daily ration in a London cow-house. The grains at 2s. a quarter, the hay at £6 a ton, and the mangolds at 20s. a ton, cost 1s. 3d. a day, and with meal or cake, the daily allowance may cost from 1s. 6d. to 1s. 9d. per cow—10s. to 12s. a week.

In summer time the food is grass with grains, and meal if necessary. Most cow-keepers, except the very smallest men, either have a small suburban farm, or buy a few acres of vetches, clover or grass, and cart it in themselves. When it is bought daily at the cow-house it costs from 1s. to 1s. and 3d. a cwt. during the summer, and the cows receive about that quantity daily, given to them as fast as they can eat it, morning and evening, with their grains.

Of course the proper feeding of the cow after she has been well bought, is the very essence of the business of the cow keeper. It is a proof of good management when she is so treated that no kind of food which she receives shall pall upon her taste. The maxim is never to overdo a cow with any kind of food. Some cows are exceedingly greedy for distillers' grains, and they yield a very large quantity of milk upon them. But it is easy to 'over-do' a cow with grains; and she should be always stinted of her favorite food, or she will get sick of it, as I have seen often enough in the case of this very article—distillers' grains."

### The Devon as a Dairy Cow

The Devon may be called medium, in the quantity of milk she yields, and in its quality, superior. The older, or unimproved race, were somewhat noted for the quantities of milk they produced, as well as its quality. A gallon of Devon milk yielded more butter than that of almost any other breed, as it does now, except the Alderney. But the improvers, in the attainment of a finer form, and heavier substance in their animals, perhaps sacrificed somewhat of the quantity of milk for the more liberal development of flesh, well knowing that both flesh and milk could not thrive equally together in the same animal; although when the milk ceased, the flesh came on with due rapidity, under generous feed. Yet with an eye to breeding her solely for milk, she is well fitted for a dairy cow. Docile in temper, easy in keep, placable in disposition, she is readily managed. Her udder is soft, tidy in shape, with thin, silky hair upon it, clean, taper teats, easily drawn, and every way satisfactory to her keeper.

We have kept thoroughbred Devons thirty four years sometimes as high as twenty five or thirty (not all milk cows) in number. Many of them have been excellent milkers, and some of them extraordinary for their size. We once had two three year old heifers, with their first calves which gave for some three months after calving, on pasture only, with steady milking, an average of eighteen quarts per day; and from cows which we have at different times sold to go to other States, the accounts of their milk have been equally good. It is but fair to say, however, that after we commenced crossing our cows with bulls of later importations, some fifteen years after the commencement of the herd, the large milkers were not so numerous, although the cattle from these crosses were somewhat finer. The bulls we used were apparently bred from stocks highly improved, with an effort more to develop their feeding properties, than for the dairy. After all our Devons yielded, on an average, quite as much as any common cows we ever kept with much less consumption of forage.

With all her alleged deficiencies, the Devon possesses the inherent qualities of a good milker. Her dairy faculties may be bred out of her by neglect of that important item, and with a view to give her an earlier maturity, and more weight of flesh; but even under that system, she will occasionally persist, as we have known in various instances, in giving a largo flow of milk, exceeding many common cows of equal size. On the whole, from the accumulated accounts we have received from time to time, coupled with our own experience, we pronounce the Devons, as a race, when bred with an eye to the development of the dairy quality, considering their size, and consumption of food, good dairy cows, both in the quantity of milk they give, and the butter it yields.—*L. F. Allen's American Cattle.*

The milk train on the Housatonic Railroad began running from Pittsfield, Mass., October 1. A year ago this business was begun as an experiment, when forty four cans of forty quarts each were the whole quantity sent, which has increased to three hundred and forty daily. Ten cans are promised from Pittsfield, which doubtless will be increased tenfold.

## Entomology.

### An Ivy Borer.

J. M. W. Crowther, of Belleville, sends us a chrysalis, with the following communication:—"I send herewith a remarkable-looking insect, taken from the stem of an ivy plant some four days ago. When found it was moving its tail from side to side, in a quick, jerky way. It is alive now, and probably will be when it reaches you. Can you tell me its name?"

Ans. by E. C. F.—The specimen referred to above is the chrysalis of a small moth, probably of the family *Agrotidae*, whose caterpillars bore into various plants and live upon their pith. A familiar instance of an insect of this kind is the currant-bush borer (*Egeria typhaiformis*, Linn.), which proves at times very destructive to the shoots and branches of both the black and red currant bushes. The moth is small, with partially transparent wings, and may often be seen basking in the sunshine on currant leaves in the early part of the summer. The species of the specimen before us we cannot tell from the chrysalis, but we shall be able to determine it when the moth comes out in the spring. The loose way, however, in which it was packed, allowing it to rattle about in the box while travelling by mail, makes us rather doubtful as to its ever reaching the perfect state. A little cotton-wool would have rendered it secure.

### Variation in the Numbers of Insects.

There are many insects—for instance, the notorious army-worm of the North (*Leucania unipuncta*, Haworth)—which only appear in noticeable numbers in particular years, though there are enough of them left over from the crop of every year to keep up the breed for the succeeding year. There are other insects—for instance, the cankerworm (*Anisopteryx verata*, Peck)—which ordinarily occur in about the same numbers for a series of years, and then, in a particular season and in a particular locality, seem to be all at once swept from off the face of the earth. These phenomena are due to several different causes, but principally to the variation and irregularity in the action of cannibal and parasitic insects. We are apt to forget that the system of nature is a very complicated one—parasite preying upon parasite, cannibal upon cannibal, parasite upon cannibal, and cannibal upon parasite—till there are often so many links in the chain that an occasional irregularity becomes almost inevitable. Every collector of insects knows that scarcely a single season elapses in which several insects, that are ordinarily quite rare, are not met with in prodigious abundance; and this remark applies not only to the plant-feeding species, but also to the cannibals and the parasites. Now, it must be quite evident that if, in a particular season, the enemies of a particular plant feeder are unusually abundant, the plant-feeder will be greatly diminished in numbers, and will not be able to expand to its ordinary proportions until the check that has hitherto controlled it is weakened in force. The same rule will hold with the enemies that prey upon the plant-feeder, and also with the enemies that prey upon those enemies, and so on *ad infinitum*. The real wonder is, not that there should be occasional irregularities in the numbers of particular species of insects from year to year, but that upon the whole the scheme of creation should be so admirably dove-tailed and fitted together, that tens of thousands of distinct species of animals and plants are able permanently to hold their ground, year after year, upon a tract of land no larger than an ordinary State.—*American Entomologist*.

### Loss by Insect Depredations.

The *American Entomologist* asserts that one year with another the United States suffer a loss from the depredations of the insect tribe to the amount of \$300,000,000 annually. This seems an enormous amount; but when we consider the number of enemies which vegetation has in the bug or insect family, and the rapidity with which each saps the life of a plant, or the fruit which it produces, the sum, large as it is, will not be deemed an extravagant one. Alluding to these insect depredators, *The Entomologist* says: "Turn them which way they will, the agriculturists and horticulturists of the Northern States are met by plant lice, bark lice, May bugs, rose bugs, weevils, cut worms, caterpillars, palmer worms, canker worms, slug worms, and leaf rollers;

and at periodic intervals the army worm march over their fields like a destroying pestilence; while in Kansas, Nebraska, and Minnesota, and the more westerly parts of Missouri and Iowa, the hateful grasshopper, in particular seasons, swoops down with the western breeze in devouring swarms from the Rocky Mountains, and like its close ally, the locust of Scripture and of modern Europe, devours every green thing from off the face of the earth.

How SPIDERS BEGIN THEIR WARS.—Early in the spring of 1866, while arrangements were making for photographing a live male of the *Nephila plumipes* (the so-called "silk spider of South Carolina"), the spider, after having several times traversed the circle of wire on which it was, suddenly stopped, took a firm position at the top of the frame and lifted the abdomen, pointing it towards a large skylight which occupied the middle of the ceiling, a slender, shining thread was seen to shoot forth from the spinnerets which occupy the end of the abdomen, it seemed to have a black, rounded extremity, which advanced through the air rather quickly for a few inches, but afterwards more slowly and steadily, and with an upward tendency, but always in the direction of the skylight. When it had reached the length of five or six feet, I allowed it to become attached to my coat, the issue ceased at once, and the spider, having attached the end of the line, turned about and began to put upon it. I now broke it off near the wire, and, believing there was a current of air toward the skylight, I blew gently upon the spider from various directions, and found that it always pointed its abdomen in the direction in which I blew, and that the thread was emitted in the same direction. So that while it seemed to have the power of projecting a thread for a short distance, yet it always availed itself of the prevailing current of air.—*B. G. Wüder, with "American Naturalist" for June, 1868.*

## Poultry Yard.

### Houdans.

A CORRESPONDENT in the *Journal of Horticulture* gives the following account of his experience with Houdans:

I have reared an average of nine chicks from every sitting of thirteen eggs during the past two seasons. Some breeders would call this good luck, but in my opinion it is what any person by the commonest attention might do with Houdans in the most limited space for rearing chickens.

I reared all my birds in a sandy yard for the first three days, giving chopped egg boiled hard, with bread crumb and lettuce, and after the third day their staple food was middlings and lettuce, with an occasional handful of shelled oats. With this food, supplied little and often, the birds grew with wonderful rapidity, and an aptitude to make flesh is a strong argument in favor of the breed for table purposes. Its flesh is delicate, tender and nutritious. My Houdans hatched in April were fit to kill a month before Dorking chickens of the same age, but, unlike other fowls, the hen birds are the most rapid of growth, and when only a few hours old may be distinguished from the cockerels by their superior vigour and larger crests.

As layers the Houdans will hold their own against any fowls with which I am acquainted; their eggs are large, of a fine rich flavor, and equal in weight to those laid by the famous Spanish.

The Houdans never sit, which is another strong argument in their favor; for cooping, and all its attendant trouble, are thus saved, and these birds, after a couple of days rest, recommence laying, whereas clucking hens are the pest of the amateur's life.

The Houdan is gentle, very tame, and of a contented, stay-at-home disposition; not at all a dainty feeder, and not addicted to scratching. As a proof that fanciers are becoming alive to the increasing popularity of Houdans, I may point to the fact that the late National Poultry Company at their sale obtained £8 10s. for their prize cock and hen, which was the highest price paid for any two birds amongst the eight hundred sold.

PRECOCIOUS PULLET.—A poultry fancying friend writes: "I have a 'Buff Cochins' pullet, bred from the pair that I got from you last fall, that laid her first egg before she was five months old. What do you think of that? Can you beat it? Rather precocious, don't you think? She is one of five that I have bred this summer, and I think the rest will follow her example pretty soon."

## Stock Department.

### Estimating the Weight of Cattle by Measure.

We are greatly obliged to a subscriber from Athol, who points out an error of a decimal point in the rule given in our issue of Oct. 15, for finding the weight of cattle by measurement. The rule was taken from *Stevens' Book of the Farm*, a standard authority, which gives the divisor as 7344. Our correspondent objects to even that number so corrected, and writes as follows:—"The rules given by you are modifications of one in common use, viz., *Multiply the square of the girth by five times the length, and divide the product by twenty-one.* The quotient is the weight, nearly, of the four quarters in imperial stones of fourteen pounds avoirdupois.

The data from which the rule has been calculated is, that it has been found by experiment that the weight of a bullock, divided by the product of the square of the girth behind the shoulder-blade into the length from the shoulder-blade to the buttock is =  $3\frac{1}{2}$  lbs. avoirdupois =  $\frac{5}{8}$  of an imperial stone.

If the cattle be very fat the four quarters will be  $\frac{1}{2}$  more, and if very lean  $\frac{1}{2}$  less than that obtained by the rule. The four quarters are a little more than one-half of the weight of the living animal. The skin is  $\frac{1}{8}$  and the tallow  $\frac{1}{8}$ .

The divisor in the first rule is incorrect in the digits composing it, as well as in the decimal, as may be seen from the following deduction from the last rule given

$$W = G^2 \times L \times 5$$

21

Reducing the girth and length in the numerator to inches, it is necessary, in order to preserve the value of the fraction, to multiply the denominator by the same numbers; hence we get

$$W = (g \times 12)^2 \times l \times 12 \times 5$$

$$\frac{12 \times 12 \times 12 \times 21}{(g \times 12)^2 \times l \times 12}$$

7257.6

Therefore the divisor in the first rule should be 7257.6 instead of 7344. The former will give nearly the same result as that obtained by the other rules.

The decimal .238 in the second rule is obtained by reducing the fraction  $\frac{5}{8}$  to a decimal, and as it is not finite, the result is not so correct as that obtained by the use of the primary rule; besides, any person versed in the simple arithmetical rules will have no difficulty in solving mentally such problems, who might be perplexed in having recourse to decimals to arrive at the same results."

### Weaning Colts.

G. S. Y., of York, writes—"SIR: The way I wean a colt is not like your correspondent who signs himself H. P. I get the colt to eat oats well, when the mare is feeding; and when it will do that well, there is no danger of its losing flesh. If it does, it will soon pick it up again. When the colt can eat oats, let it be loose in a stall, away from all the other horses, quite out of hearing. After it has been away about a week, you can do anything you like with it; turn it out in good pasture with other young things or old things, if they do not kick; but do not let it see its dam, or any other mare that has had its colt taken away, or it will be very likely to try and jump the fence, and probably hurt itself."

EXTRAORDINARY FIG.—Perhaps one of the largest pigs in England, if not in the world, is now the property of Mr. Lloyd, of Bredon, Worcestershire, who purchased it of a neighbour, when two months old, at 1s. 6d. This wonderful animal is now 22 months old, measures 9 feet 6 inches from end of nose to tip of tail, 5 feet round the neck, nearly 9 feet round the body, and stands 4 feet high. *Mark Lane Exp.*

## Hints from the London Horse Book.

## FOOD.

1. All horses must not be fed in the same proportions, without due regard to their ages, their constitution and their work. Because the impropriety of such a practice is self-evident. Yet it is constantly done, and is the basis of disease of every kind.

2. Never use bad hay on account of its cheapness. Because there is not proper nourishment in it.

3. Damaged corn is exceedingly injurious. Because it brings on inflammation of the bowels and skin diseases.

4. Chaff is better for old horses than hay. Because they can chew and digest it better.

5. Mix chaff with corn or beans, and do not give the latter alone. Because it makes the horse chew his food more, and digest it better.

6. Hay or grass alone will not support a horse under hard work. Because there is not sufficient nutritive body in either.

7. When a horse is worked hard its food should chiefly be oats; if not worked hard, its food should chiefly be hay. Because oats supply more nourishment and flesh-making material than any other kind of food. Hay not so much.

8. For a saddle or a coach horse, half a peck of sound oats; and eighteen pounds of good hay is sufficient. If the hay is not good add a quarter of a peck more oats. A horse which works harder may have rather more of each; one that works little should have less.

9. Rack feeding is wasteful. The better plan is to feed with chopped hay from a manger. Because the food is not then thrown about, and is more easily chewed and digested.

10. Sprinkle the hay with water that has salt dissolved in it. Because it is pleasing to the animal's taste, and more easily digested. [A teaspoonful of salt in a bucket of water is sufficient.]

11. Oats should be bruised for an old horse, but not for a young one. Because the former, through age and defective teeth, cannot chew them properly; the young horse can do so, and they are thus properly mixed with the saliva, and turned into wholesome nutriment.

12. Vetches and cut grass should always be given in the spring to horses that can not be turned out into the fields. Because they are very cooling and refreshing, and almost medicinal in their effects; but they must be supplied in moderation, as they are liable to ferment in the stomach if given largely.

13. Water your horse from a pond or stream, rather than from a spring or well. Because the latter is generally hard and cold, while the former is soft, and comparatively warm. The horse prefers soft muddy water to hard water, though ever so clear.

14. A horse should have at least a pail of water, morning and evening; or (still better) four half-pails, at four several times in the day. Because this assuages his thirst without bloating him. He should

not be made to work directly after he has had a full draught of water; for digestion and exertion can never go on together.

15. Do not allow your horse to have warm water to drink. Because, if he has to drink cold water, after getting accustomed to warm, it will give him colic.

16. When your horse refuses his food, after drinking, go no further that day. Because the poor creature is thoroughly beaten.

## "Nellie Bly,"

MR. MILLER'S IMPORTED TWO-YEAR OLD SHORT-HORN HEIFER.

THE annexed engraving is a fine likeness of a beautiful red two-year old imported Short-horn heifer, which deservedly took the highest honours in her class at the last Provincial Exhibition. She is owned and was exhibited by Mr. John Miller, of Brougham, township of Pickering, having been purchased by him last summer from a noted Western stock-breeder, Mr. W. R. Duncan, of Tawanda



"NELLIE BLY,"—The Property of MR. JOHN MILLER, Brougham, Township of Pickering.

Meadows, Illinois. She cost the sum of \$1,000 Am. Cy., and is well worth the money. She was calved Nov. 23, 1865, sired by "Burnside" (see Herd book, page 4918), dam "Nelly Bly," by "Havelock" (see Herd Book, page 2588). She won the first premium as the best heifer, one year old and over, at Bloomington in 1867. At the State Fair held at Quincy the same year, she took the first premium of \$20, as the best heifer one year old and over. At the Missouri State Fair, held at St. Louis, she carried off the prize of \$20 as the best heifer one year old and over. She also won in the sweepstakes ring the second prize of \$15 as the second best Short-horn animal of any age. Mr. Miller purchased two other promising young Short-horns from the same breeder, and the trio form a valuable addition to the improved stock which Canada can boast.

## Colts Need Care in Winter.

CARE is essential for the proper wintering of any kind of stock, but especially requisite in the case of colts. Some allow colts to struggle on among cattle and sheep and store hogs, deeming them com-

petent to fight their own way through, no matter how rough their treatment may be, nor how much they may be robbed at the stated periods of feeding. They, even when thus treated, manage to worry through, but it is at the expense of that development which the season should bring to them. The aim should be, when colts are weaned, to keep them from falling away in flesh, but this cannot be accomplished by hap-hazard management. They require shelter during storms, and suitable food and plenty of it, till the return of the season of verdure shall enable them to range in search of that which is congenial to them and promotive of their development. Colts, like their dams, find an occasional application of the card agreeable, and it is certainly healthful.—*Rural New Yorker.*

## Winter Feeding.

To the Editor of THE CANADA FARMER:

SIR,—Would you or some of your subscribers be pleased to send us, through your most valuable paper, a few more good hints respecting the manage-

ment of sheep and cows in the winter? I will try and give you a brief account of the manner in which they are managed in this section of the Dominion. To begin, our farmers always allow too many cows for the amount of pasture, upon which they are suffered to remain until they are almost as poor as they were in the spring, on account of the terrible effects of the fall rain, snow, and sleet, to which they are exposed, and the frozen grass and briars, not to mention old fence rails, &c., which they are compelled to eat, in order to keep themselves from starving. They are then driven into the barn-yard—a won-

derful-looking affair indeed; sheep, cows, pigs, colts, and hens, all together,—after which a few armfuls of well-threshed straw are thrown out to them three times a day, which they can tread into the ground, eat, or manage otherwise just as they please. But the cows, as long as they are able, generally amuse themselves by trying which can gather the most wool on the point of their horns, and the sheep, in retaliation, run races over the straw, which renders it unfit for use. Now, this, with very few exceptions, is the general rule. Please point out something better and oblige.  
H. C.  
Plantagenet, Nov. 26, 1868.

BOOTH SHORT-HORN HERD.—It is rumoured that the State of New York is ere long to have a herd of Booth Short-horns. Messrs. Wolcott and Campbell, already distinguished as breeders of Ayrshires, &c., are the parties who are said to have decided on this undertaking. We understand they have an agent now in England negotiating the purchase of some choice stock animals for them. Mr. Cochrane will have to look out for his laurels. It is highly probable that his achievements have stimulated the gentlemen above-named to go into this enterprise, and this is one of the ways in which one energetic lover of improvement rouses others to copy his example and if possible outrival him on his chosen field.



### Cost of Waggon Tires.

MR G S YEASLEY, Postmaster, Davenport, submits the following case for our opinion:—"A farmer sent his waggon to the blacksmith to get it newly tired; when it was done, the blacksmith charged \$18.10. The farmer considers that a great deal too much, but is willing to pay what is fair and honest. The blacksmith says the tires weigh 230 lbs., that they cost three cents a pound, or \$6.90, and that he charges \$11.50 for putting them on. Now, sir, is that right or is it wrong? If wrong, how much is right?"

NOTE BY ED. C. F. We cannot pretend to assume judicial functions concerning a question like the above. We have ourselves paid \$1 apiece for putting on tires, and this, we understand from enquiry among waggon-makers in this city, is about a fair charge; but something will depend upon the manner of putting on, bolting, &c.; three cents per pound has been about the cost of iron; but some allowance should perhaps be made for waste, &c. Iron is, however, cheaper just now, and we believe a blacksmith could afford it to his customers at \$2.50 per 100 lbs. Taking these facts into account, and allowing a day for making and putting on four tires, the charge complained of by our correspondent does certainly seem exorbitant.

### Queries.

Our correspondent, Phiala, from Quebec, sends with his last communication a small portion of bog rush, taken from a wet piece of upland, and wishes to know what it is. The specimen is a species of *Juncus*, probably *J. effusus*, but it is not possible to determine the exact species without seeing more of the plant, as there are so many of the same genus, and some of them very like one another. Such a piece of land would probably be easily drained, and would then be suitable for any ordinary crop, or at all events, would make good pasture. The same correspondent also asks "whether he could grow wheat after potatoes, on light, almost sandy ground."—Yes, if the land had been well manured.

And "whether broken-up meadow is fit for wheat, when ploughed in immediately before sowing." Such is not the practice among farmers. Peas are usually put in under these circumstances.

GRAFTING.—A subscriber from Grand River submits the following question to nursery men.—"May I request that some nursery man or farmer, versed in grafting, would be kind enough to say whether young trees—apple, pear, stone-fruit, &c.—which are taken up in the fall and packed away in the cellar, or laid in by the heels, should be grafted in the cellar, or when taken to transplant before they are set out? Or, should they first be transplanted and then grafted; or be one year growing?"

ITALIAN RYE GRASS.—An English farmer, writing from Kingston, says:—"In answer to an inquiry about Italian Rye Grass, I beg to state that, from my knowledge of the value of that grass in England, about thirty years ago, when I farmed pretty extensively near Montreal, I imported two bushels of the Italian Rye Grass seed, and sowed it in the spring. It came up well, and was very luxuriant in the autumn, but in the spring, to my disappointment, I found that the whole was winter-killed. But I often thought that it might stand the winter in Western Canada, where the frost is not so severe. If I were a younger man, I would give it a trial; it is a valuable grass. Sanfoin is very productive on sandy soils."

EARLY ROSE POTATO.—A subscriber, writing from Markham, asks if we "know anything of the Early Rose Pot. to, and could tell him where he might procure seed." We have had no personal experience with this new variety, and can only report what may be learned from American exchanges, nearly all of which have lately contained advertisements, letters and editorials, setting forth in glowing terms the excellencies of the new candidate for public favour. It is said to possess the advantages of the Goodrich, and to be earlier and more prolific than that excellent potato. The quantity in market is still so limited as to keep up a very high price. The principal proprietor of this new favorite, who will no doubt make "a good thing" of it, is Mr. George W. Best, 13 Broad St., Utica, N.Y., who advertises seed for sale.

Mr. Best has also established an agency in Chicago in the person of his brother, we believe, Mr. John Best, 161 S. Clark Street.

## The Canada Farmer.

TORONTO, CANADA, DECEMBER 15, 1868.

### OUR NEW SERIES.

THE present number of THE CANADA FARMER completes the volume for 1868, and on the 15th January the first number of our new series will be launched. Highly satisfactory editorial arrangements for the coming year have been concluded, and we feel warranted in promising that THE FARMER for 1869 shall surpass in interest and variety all the volumes that have preceded it. Several eminent agricultural writers in England and the United States, from whom we hope to receive editorial assistance, have yet to be heard from, but the staff already secured presents an array of talent seldom, if ever, united on one Monthly Journal.

J. E. ELLIS, Esq., M.R.C.S., England, will continue to discharge the duties of Office Editor.

D. W. BEADLE, Esq., of St Catharines, the able and accomplished Horticulturist, will edit the Horticultural Department, including all that relates to the Orchard, the Nursery, and the Fruit, Flower and Vegetable Garden.

PROFESSOR BUCKLAND will continue his valuable contributions to the Breeder and Grazier's department, and on the treatment of farm lands.

E. L. CULL, Esq., and J. McKELCAN, Esq., (late connected with the *Genesee Farmer*), will bring their experience and ability to bear on subjects connected with the practical work of the farm.

ALLAN MACDOUGALL, Esq., C.E. (formerly of Edinburgh, Scotland), will contribute papers on Land Drainage, Irrigation, and the improvement of Landed Properties.

JAMES SMITH, Esq., A.M., will furnish plans and designs for the erection of Agricultural and Rural Buildings.

REV. C. J. S. BETHUNE will take charge of the Entomological Department.

ANDREW SMITH, Esq., V.S., Edin., will preside over the Veterinary Department.

J. H. THOMAS, Esq., of Brooklin, will edit the columns devoted to Bees and Bee Hives.

It is proposed that during the coming year greater attention than heretofore shall be paid to the Agricultural news of the Province—to the importation and sale of stock, the progress and prospects of farm operations, the prices of farm produce and live stock, and the transactions at Agricultural Fairs and Exhibitions.

As already intimated, all discounts heretofore allowed to Agricultural Societies and Clubs are to be discontinued, and the invariable price of THE CANADA

FARMER will hereafter be ONE DOLLAR PER ANNUM, free of postage—payable in advance.

An Agent is wanted in each County in Ontario to canvass for subscribers to the New Series of THE CANADA FARMER, for whose services a good commission will be paid.

### Agricultural Bills now before the Ontario Legislature.

SEVERAL bills of importance to the farming interest are now pending in our Provincial Legislature. "An Act relative to Mining" has been introduced by the Hon. Commissioner of Crown Lands, which repeals many of the clauses of the Mining Law passed last session, and which have been found to be practically objectionable. Various amendments and modifications have been made in the Commissioner's new Bill, but as it has not yet finally passed into law, it is premature to speak definitely and positively respecting it. A measure calculated to be very beneficial to many parts of the country, and entitled, "An Act to amend the Municipal Institutions Act of Upper Canada, with respect to Drainage," was brought in by Mr. McKellar. It provides for the opening of drains, and meeting the expense thereby incurred, whenever a majority of the resident owners of property in any part of any municipality, shall petition the Council in favour of the work. Should this measure become law, it will be easy to secure thorough drainage in any locality where a majority of the farmers are so convinced of the value and importance of it as to petition the Council in favour of the work. We should hope that there are neighbourhoods, not a few, in all parts of the Province where at least a majority of the resident property owners are sufficiently alive to this matter to avail themselves of such means of promoting it as the law may put into their hands. A Bill amending the Act now on the statute book for preventing the spread of Canada thistle has been introduced by Mr. Matchott. It is very short, consisting only of two clauses. The first makes it unlawful for any overseer of highways to enter on the work of thistle-extinction without having first obtained authority from the Municipal Corporation of which he is an officer. The second enacts that it shall be lawful for all Municipal Corporations in the Province to confer such authority. We are afraid the anti-thistle law is very much of a dead letter. It is much to be regretted that it should be so, for year by year these terrible weeds are multiplying to an alarming extent, and fast getting a foothold from which it will not be easy to dislodge them. Two Bills are before the House in reference to dogs and sheep. One proposes to repeal the Act of last session, and the other consists of certain modifications of that Act, the chief one being a provision for the payment of only two-thirds of the value of sheep worried to death by dogs. We do not think the agricultural community desires the law to be repealed. If the sheep and wool interests are to flourish, there must be legal protection against flocks being ravaged by rapacious dogs. But it is generally felt that the existing law needs amendment, especially in the particular above-mentioned. Some amendments have been proposed in the Free Lands Grant Act, but it is matter of regret that we are not likely to have a liberal, comprehensive, attractive Homestead Exemption Law the present session. The Government do not favour it, and beyond a few members, the House appears to be indifferent to it. This is one of the subjects on which our Legislators need to be better informed, since, judging by the tenor of the debates in reference to it, there seems to be much misapprehension as to the nature and practical effect of such a law. It is regarded by not a few as a convenient arrangement for evading the payment of one's just debts—a very erroneous and short-sighted view indeed.

### Mr. Simon Beattie.

We have received a communication from James Cowan, Esq., late M. P. P. for Waterloo, which has been unfortunately mislaid, suggesting that the stock-men of this country owe a debt of gratitude to the gentleman whose name heads this paragraph and that it would be only a seemly way of giving expression to their sense of obligation, by getting up some sort of testimonial. We heartily concur in the suggestion, and shall readily do all in our power to further it. Mr. Beattie has done more, perhaps, than any other single man in the country for the improvement of our horses, cattle sheep and even poultry. Others have invested money in these directions much more largely than he could possibly do, but he has risked himself to an extent which no one else has done having crossed and re-crossed the Atlantic nearly, if not quite, twenty times, on voyages of stock importation. The animals he has brought to this country have been selected by him, and have had his personal care and attention while *in transitu*. He has proved himself one of the best judges of stock that Canada can boast, and his name will go down to posterity in an honourable place among those who have contributed to raise the fame of this Dominion in the show-rings and meat-markets of the world. We say, by all means, give tangible expression to the feeling that cannot but be entertained of Mr. Beattie's great services to our agricultural interests. We shall be most happy to receive and give publicity to any further suggestions on this subject, and would just add, by way of conclusion, that no doubt a number of prominent British stock-breeders would co-operate in such a movement were it initiated on this side of the Atlantic.

### Book Notices.

**RINDERPEST.**—Weed, Parsons & Co., Albany; Royal Octavo, pp. 114. We have to acknowledge the receipt of this work from Mr. E. P. Johnson, secretary of the New York State Agricultural Society. It consists of a Report, prepared by a Committee appointed by that Society to investigate the mysterious and fatal malady which has wrought such terrible destruction in British herds. The Committee seem to have accomplished their task with much ability, and in a very painstaking manner. Coloured plates, twelve in number, illustrating the pathology of the disease, greatly enhance the value of the book. The N. Y. State Agricultural Society have done a very proper and praiseworthy thing in getting up this work, and should transmit it to herds to be visited by this dreaded plague—which may Heaven forbid!—stock men will find this treatise of inestimable value. On the wise principle forewarned, forearmed, they should obtain and study the book.

**THE DISEASES OF SHEEP.**—By Henry Clok, V. S., Graduate of the Royal College at Berlin, Prussia, and late Veterinary Surgeon-in-chief of the U.S.A. Philadelphia: Claxton, Remsen, & Huffsinger, Nos. 819 & 821 Market Street; pp. 116. This work explains and describes the diseases of sheep, stating also the proper remedies. It is meant for ordinary farmers and sheep-owners, to enable them to treat the simple ailments that may get into their flocks, as well as those which require instant attention. The author by no means wishes to set aside educated veterinarians, but wisely advises farmers and cattle-owners to adopt as their motto: "help yourself when possible, and employ a veterinarian in other cases." He also, with equal wisdom, counsels his readers to beware of quacks. We heartily endorse his advice, and recommend his book.

**ONTARIO VETERINARY SCHOOL.**—The session for first year students will commence, as will be seen by advertisement, on Wednesday, January 6th. A number of second and third year students have been attending the course of instruction in this valuable institution since the early part of November.

**THOROUGHBRED HORSE.**—Mr. A. Smith, V. S., of Toronto, advertises for sale a thorough-bred horse. He is a very beautiful, well proportioned and gentle-tempered animal. He was bred, we understand, in the States, and is descended from some of the best blood in America.

**STOCK SALE.** We direct attention to the advertisement of Mr. George Miller, of Markham, who will sell, on the first Wednesday in February a fine lot of well bred stock. One of the bulls is from the herd of the late Mr. Alexander, of Kentucky, and one from the herd of Mr. Bedford. The cows are all, we are informed, either in calf or have calves by their sides. The sheep, of the Cotswold and Shropshire Down breeds, are said to be a choice lot. Mr. Miller is compelled to relinquish farming on account of blindness. Hence the sale.

### Agricultural Intelligence.

Philadelphia has taken steps to import a thousand English sparrows, which will be let loose in the public squares and parks next spring.

In Australia they have fenced in 10,000 acres where ostriches are kept, and it is found that the (old) feathers of a full grown bird will sell for \$100 a year.

Port Perry is making arrangements for a Christmas cattle fair, on the 18th instant. Premiums are offered liberally, and preparations have been made for holding a regular quarterly fair, in accordance with the statute.

A division has taken place in the Wallace and Elma agricultural society. Elma wants a society of its own. A meeting was held at Newry on the 20th ult., and the new society made a commencement with 115 members.

Wolves are active about Orillia. Messrs. James Millard, Bennet and J. Cuppage, about the end of last month, lost a fine lot of sheep, the latter finding among the missing a valuable thorough-bred South Down ram. The wolves have approached within three miles of the village, and have made sad havoc amongst several of the farmers' flocks in North Orillia and other localities.

The sheep farmers in Australia have recently spent considerable sums of money in the construction of apparatus for sheep washing with hot water. From water at a temperature of 110 degrees, into which they are first plunged, the sheep are floated to a tank of cold water, where the cleansing is completed with a kind of douche. So much grease is taken out of the fleeces by this process that the wool is expected to fetch much better prices.

**NOTES FROM QUEBEC.** Under date Nov. 29th our correspondent "Phiala" writes: "Winter has fairly set in. St. Catharine's Day, true to its traditional character, has brought snow. It is very mild, and navigation is not quite closed. Oats are very dear, thirty-three cents per bushel, potatoes, thirty-three cents; hay, twelve to thirteen dollars a hundred bundles, or 1500 lbs.; butter, twenty-five cents; pork, eight cents per pound, wood, four dollars a cord.

**PEAT.**—A formidable competitor to wood and coal will be the peat product of next year, if anticipations be realized. The Welland Peat Co. recently completed a contract with a Montreal firm for the construction of a ponderous machine, capable of manufacturing next season 15,000 tons of peat. In addition to this, they have a new machine just finished at Hamilton, with a capacity of 7,500 tons a season. With these, added to the two machines now at the works, they design next season to throw 30,000 tons of peat upon the market. A mighty change in the coal and wood business is predicted.

**RAILWAY IN MUSKOGA.** We understand that it is in contemplation to build a wooden railway from a point on Lake Couchiching to Gravenhurst, a distance of about twelve or fourteen miles. An engineer is now in this city giving information as to the project. A company has been formed, with a good part of the capital subscribed, and the company will apply for a charter shortly. The construction of this road will form a complete line of steamboat and railway communication between Toronto and the free grant district. Work will be commenced in the spring.

**NEW POSTAL TREATY WITH GREAT BRITAIN.**—A new postal convention has recently been concluded between the United Kingdom of Great Britain and the United States, which goes into operation on Jan. 1st, 1869. It establishes the following rates of international postage:—

1. Letters, 12c. single rate, per 15 grammes (one-half ounce), in United States, and sixpence (12 cents) in United Kingdom—pre-payment optional. A fine of 5c. in the United States, and twopence (four cents) in the United Kingdom, will, however, be levied and collected in addition to deficient postage on each unpaid or insufficiently prepaid letter received by one country from the other.

2. Newspapers, two cents each in the United States and one penny each in the United Kingdom, if not exceeding four ounces in weight.

3. Book packets, including printed papers of all kinds, &c., &c., and patterns or samples of merchandise, including seeds and grain, when not exceeding one ounce in weight, two cents in the United States and one penny in the United Kingdom; when exceeding one ounce and not exceeding two ounces in weight, four cents in the United States and two pence in the United Kingdom; when exceeding two ounces and not exceeding four ounces in weight, six cents in the United States and three pence in the United Kingdom, and when exceeding four ounces in weight, an additional rate of six cents in the United States and three pence in the United Kingdom will be charged for every additional four ounces or fraction thereof. Postage chargeable as above upon all articles of printed matter, including patterns or samples of merchandise, must be fully prepaid at the mailing office in either country and as in full to their destination, the receiving country delivering the same in all cases without any charge whatever.

### Horticulture.

Fine Black Hamburg grapes have been selling in San Francisco at 75 cents per 100 lbs.

**HORNED AND GREENHOUSE SPIDERWEB.**—The experiment has been tried in the west of heating hillsides by the use of tile flues laid in the soil, as for draining, and heated with fire heat.

**INCREASED SIZE OF STRAWBERRIES.**—Mr. Seth Boyden, of Newark, N. J., says that with twenty years' cultivation he can raise strawberries as large as pine-apples, which will retain all the delicacy of the fruit now grown. One of our American exchanges exclaims, "Whew!" at this, and it certainly does seem rather astounding. But after all, the difference in size between a wild strawberry and a mammoth Duke Malakoff is quite as great as between such a Malakoff and an ordinary pine-apple.

**CULTIVATING ORCHARDS.**—The Maine Farmer furnishes an example of the benefits resulting from cultivating apple orchards in that of W. Lombard, of Augusta, who has some 170 trees, mostly old, well cultivated, the soil stirred about as far as the limbs extend, and the ground mulched with refuse straw, potatoe tops, corn stalks, &c. One Tallman Sweet tree yielded six barrels, which, at \$5 per barrel, brought \$30. The whole orchard in one year yielded \$613 in fruit sold, and the present, not a bearing year, \$200.

**HEALING WOUNDS ON FRUIT TREES.**—A correspondent of the *Country Gentleman* recommends the following mode of treating the wounds made on fruit trees when large limbs are taken off. Cut off the limb early in spring smooth with the body—the new wood forms a ridge that year around the cut. The following spring lay the wood bare on this ridge, which makes the wood and bark push forward over the wound the second season. The process is repeated until the whole is covered.

**NEW VIRGINIA CREEPER, *Ampelopsis Veitchii*.**—This is a miniature foliage variety of our Virginia creeper, which clings to any building with the tenacity of the strongest ivy, and producing in great profusion its dense foliage of a glossy green shaded with purple, cannot fail to command great attention. It is of exceedingly rapid growth, requires no nailing, and from earliest spring it produces its beautiful purple tinted leaves so thickly as to form the most perfect covering wherever it is planted, the young shoots being quite purple. The leaves are sometimes divided in a three part, and are sometimes entire, turning red in autumn, similar to the old kind. It was introduced by Messrs. Veitch, and long received first class certificates and prizes at the great shows in London.—*Howey's Magazine*.

## The Household.

### Farmers' Daughters.

To the Editor of THE CANADA FARMER.

Sir,—In your last issue I find an interesting letter from "Yorkshire Lass," and it gave me great pleasure to see that our sex has come forward to show that it was not knowingly we neglected our part in contributing to your useful and ever-welcome journal. However diffident I may feel of my ability to add anything to your columns worth knowing, yet, seeing one of my sex enter the field, it seems scarcely fair to allow her to occupy it alone, and we must will try and maintain our old title, *the noisy sex*.

Your correspondent, "Cultivateur," in his letter of the 15th October, spoke of the disadvantages of country life, all of which I know by good experience, and I think any one living in the country will acknowledge the truth of the picture, but I do think we farmers' daughters might make a great deal better use of the many advantages we do enjoy, especially after we become old enough to feel out great deficiency. Thanks to home education and good schools, there are very few of us but can read and write. Now, instead of beating a hasty retreat (as "Cultivateur" describes) upon the arrival of our city cousins or any other visitors of superior attainments, and leaving mother to receive our guests, let us take it upon ourselves to receive and welcome them, which we can at least do in a kindly manner; and hearty courtesy will generally show itself gracefully. What if you have on a working dress? Good sensible people know work cannot be done in a fancy afternoon toilet, and I am sure they would feel far more comfortable to be received thus, than after some considerable length of time see you make your appearance trimmed up for the occasion, and making them imagine things worse than they really were. And again, instead of going into a thorough course of baking, arrange your toilet, sit down quietly with them, and try and entertain them. I think a person cannot fail to derive some benefit and catch something of the graceful manner which true educated persons possess, and I think our guests would enjoy themselves much more than if you had appeared awestricken at their arrival, and would better relish a good piece of home-made bread and butter, supposing there was nothing else, than they would all the cookery done during their visit. Now, this is but a very slight sketch of improvement which I think any of us could accomplish, and very much more too, if we are but careful not to lose a single chance to learn and improve ourselves in everything so necessary to our future advancement *personally*, and also for the advancement of our *class* which class I hope may one day, ere long, be sought and esteemed as one of the highest in our New Dominion. Above all, let us aim to excel not only in grace and accomplishments, but also in that great, high, and everlasting embellishment, *true piety*, without which all improvements are as little here, and as nothing hereafter. I am, with kind wishes for the advancement of your interesting journal, respectfully yours.

"BESSIE."

How True!—Woman is composed of 243 bones, 409 muscles, and 396 pins. Fearfully and wonderfully made, and to be handled with care to avoid scratches.—*American Paper*.

THE PRESERVATION OF EGGS.—Many methods of preserving eggs have been recorded. There is one which is used in the provisioning of Paris on a great scale, and which is described as the most sure. The eggs are plunged, in wire baskets, each holding a dozen, into caldrons of boiling water, during about a minute. A thin layer of the egg coagulates on the inner surface of the shell, and prevents the infiltration of air, which is speedily fatal to the freshness of eggs.—*British Medical Journal*.

## The Apiary.

### The Editorial Apiary.

HAVING last year given our readers "a full, true and particular account" of our bee-keeping experience, it is perhaps only proper, before the year is quite out, to inform them what has been the history of our apiary during 1868. We went into winter quarters a year ago with nine stocks, lost one through scarcity of provision, but replaced it with a purchased stock. Early in June we artificially swarmed such stocks as appeared likely soon to swarm, and ultimately lost doubled the number with which we began the season. Two accidental swarms came off late, the second on July 11th, neither of which obtained sufficient honey for stores. Had we foreseen the unusual drought and heat, we should certainly have taken the precaution to increase only about a third, and henceforth intend to take that precaution, as the only method of securing strong stocks, and a reasonable amount of surplus honey. Most of our colonies gathered enough honey for their own use during the winter, but only two gave a surplus. During a month's absence from home, one weak stock was robbed to extinction, and another became so infested with the moth-miller, that it became necessary to drive the bees and destroy a large proportion of the comb. Toward the close of the season, owing to the scarcity of forage, our bees became, to our great annoyance and regret, a perfect nuisance to the confectioners and grocers of Guelph, the offenders being chiefly Italians, and therefore easily identified as ours, nobody else in the vicinity having Italians. Great mortality of bees, and small gain of sweets, resulted from this raid on the shops. We have made away with the year's increase, partly by sales, and partly by uniting weak colonies; not caring to keep more than about nine or ten stocks. We have no reason to be discouraged at the year's operations. Though the honey surplusage was not more than fifty pounds, the sale of stock made the profit for the season quite satisfactory, especially as some of them were Italians. Our whole apiary ought to have been Italianized this year, and would have been but for two reasons;—the pressure of too many engagements to admit of the amount of attention necessary to accomplish the thing, and a wish to give the hybrids a thorough trial. That trial inclines us to the opinion, which of course will be disputed, that the hybrids are preferable in some respects to the pure Italians, and that the chief benefit to be derived from the expensive importation of foreign bees, is the improvement of the breed by a new admixture. Viewed only in this light, Italian queens are worth all they cost to purchase. We could easily fill considerable space with the gathered fruits of past observations in bee-keeping, and perhaps it would interest our apiarian readers for us to do so; but in the meantime, suffice it to say that bee-culture is a science requiring study and thought, and that in this, as in most other pursuits, perseverance alone will bring success, and that only after many dear-bought lessons in the school of experience.

## Miscellaneous.

### Roadsides

"F. D. C.," who is President of the Saratoga County Agricultural Society, lectures his brother farmers in the *Saratogian*, in the following pointed manner, which, no doubt, will apply equally well to other localities:—

We are happy to announce that on several of the highways in Charlton the inhabitants do not practice the disgusting habit of throwing all the garbage and brush, and other refuse matter, which accumulates about the houses and farms, into the road, where it remains to scare horses, offend good taste, and disfigure the street, until plying nature transforms the same into other forms. How much better it would

be to burn up all such rubbish, the ashes of which would be very enriching, or to deposit all garbage on the manure heap. Undoubtedly ten thousand dollars worth of valuable manure are thus annually wasted in Saratoga county alone. A number of thousand dollars worth of clam and oyster shells and bones are annually thrown away, and all this time the county is becoming impoverished. It is a queer idea that if the dwelling is only nice and in good order, it makes no sort of difference in what condition the yard is around it, or the highway leading to it, and in front. The surroundings are part and parcel of the house; the eye takes them all in one view. With a nice house, or any kind of a house, there should always be a neat, open yard, and a clean, smooth road, and by road is meant all the land between the highway fences. How ridiculous to spend several thousand dollars to get up a fine house and costly door-yard fence, and then ornament the same by piling up in front all the dead currant bushes, leaves, old cabbage stumps, sprouted onions, rotten potatoes, fish, clam shells, soup bones, nameless broken crockery, worn out tin pans, pails, dippers, burdocks, dead poultry, cast-off garments, boots and shoes, stones, pieces of bricks, mortar, hoops, and hoop skirts, and every other thing of no use, and that might be in the way of a thrifty housewife. This is no exaggeration, but a true analysis of the piles which may be found before hundreds of farm houses. Nearly every one of the articles mentioned in the above list is valuable for enriching the soil, or as a mulch to put around trees. The tinware and hoops buried around a tree are more than worth the trouble. The brick and mortar are worth the cost for the same purpose. The decayed vegetables should be deposited in the manure heap, in the barn-yard, or spaded under in the garden. Burn the bones with the brush on the garden, and save the ashes for a top dressing for tomatoes, cabbages, and other plants, and your labor will be repaid in a more vigorous growth and earlier ripening.

Even Tom Hood is almost inexcusable for such a description of music as this:—"Heaven reward the man who first hit upon the very original notion of sawing the inside of a cat with the tail of a horse."

PAYING DEARLY FOR A DOG.—A farmer in Vermont lost seven sheep and one lamb by a neighbor's dog. A resort to the law was had for the amount of damages. The defence impeached the good character of the dog, but the jury turned a deaf ear to it, and assessed damages to the amount of \$102.50. This mutton was dog dear instead of cheap.

The London Spectator says that Sir Robert Napier, in his Abyssinian expedition, compelled "a lofty African desert to yield water by an American device not twelve months old." "A half-dozen mules," it says, "are drawn up, loaded with thin, steel tubes. Tap, tap, tap, goes a hammer, rigged up in five minutes, and in ten the curse of Africa has been conquered, as if a new Moses had smitten the rock, and pure water for an army is sparkling among the stones."

ENGLISH PATENT HARNESS BLACKING.—Mr. Dodson furnishes the recipe for this well-known water-proof blacking. It will keep the leather soft, and, if properly applied, give a good polish. It is excellent for buggy tops, harness, &c. Old harness, if hard, may be washed in warm water, and when nearly dry, grease it with neatfoot oil.—The ingredients are three ounces of turpentine, two ounces white wax, to be dissolved together over a slow fire; then add one ounce of ivory-black and one drachm of indigo, to be well pulverized and mixed together.—When the wax and the turpentine are dissolved, add the ivory-black and the indigo, and stir till cold. Apply very thin; brush afterwards, and it will give a beautiful polish.

"CATCHING A TARTAR."—The origin of this expression, as nearly as we can remember, is somewhat as follows:—In the days when the soldiers of Christendom were doing battle against the Tartar hordes, who were enlisted on the side of the Turks, a Dutchman, fighting valiantly on the side of the Cross against the Crescent, and more distinguished for honesty than for cunning, espied a Tartar mounted on a horse, whom he thought it would be a valuable trophy to capture and bring into the camp. To this end, the Dutchman, seizing a favourable opportunity, sprang upon the horse behind the Tartar, and clasped him tightly about the waist. The Tartar, as may be supposed, clapped spurs to his horse, and made off to join his troop, and the last that was known of the unfortunate Dutchman, by his comrades, was his going at a furious pace towards the Turkish army, behind his intended captive, and singing out at the top of his voice—"I've caught a Tartar."—*Ex.*



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Toronto, Oct. 15, 1868.

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THE subscriber will offer for sale, on his farm, on the 10th concession Markham, on Wednesday, Feb 3rd, the following herd of well-bred stock:—2 Buggy Horses, got by "Bird Catcher," 4 and 5 years old, 10 young bulls, 10 cows and heifers, 1 calf or with calves by their side, 50 Cotswold and Shropshire Down Ewes in Lamb. GEORGE MILLER, Markham v.24 21

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Port Dover, Ont.

Markets.

Toronto Markets.

CANADA "FARMER" Office, Dec. 14th, 1868.

In the Produce Market, there is quite a stagnation in business. For the past week or two, there has been almost nothing doing either in flour or grain. Prices are therefore quite nominal. On the street market also there has been almost nothing doing in grain, notwithstanding that sleighing in the country is now fair. The receipts from farmers' waggon's are principally confined to poultry and dressed meat. Mutton continues to be particularly plentiful, and sells as low as 2c. to 4c. per lb., by the carcase.

PRODUCE MARKET.

Flour.—The market is dull and flat. There are very few lots offering, and there is little or no desire to buy. Prices remain nominally unchanged. No. 1 super is worth about \$4.60. There is nothing doing in extra.

Wheat.—The market still rules quiet, and is without animation. One or two cars of spring wheat sold at \$1, which is the price buyers are offering. There are very few lots in the market. A lot of 7,000 bush. spring sold to-day, but on private terms. Fall wheat is very dull. There have been no lots changing hands for several days, and prices are therefore entirely nominal. Good fall was offered on Change to-day at \$1.15 without buyers.

Oats.—Market firm. Good Canada Oats would bring 55c.; street price 54c.

Barley.—The market is without animation. We heard of nothing doing. Prices nominal. Street price \$1.25.

Pear.—There has been nothing doing in lots. There are buyers of good, sound samples at 55c. to 61c.

Bran.—Worth by the ton, \$18; by the car load, \$16.

Outmeal.—Unchanged, worth \$6 in 100 barrel lots, and \$6.25 to \$6.50 in broken lots.

Cornmeal.—Very little doing, at unchanged prices.

HAY AND STRAW.

Hay.—has been more plentiful during the week. Prices remain steady. There is a good demand for all offering, at from \$10 to \$16.

Straw.—Not much coming in, notwithstanding that there is now fair sleighing. Prices remain firm at from \$5 to \$11.

HOES.

Hoes.—Are dull. Prices have a downward tendency. We quote fair to good 7c. to 10c.; good to extra 10c. to 12 1/2c.; old, 2c. to 5c.

PROVISIONS.

Butter.—The high price has at last checked the demand, and we record dull business at nominal prices. The general feeling is that, while figures won't recede much, the present condition of the market will prevent shipments. New York advices are weak, owing to heavy receipts and no outlet. Some dealers have faith in the home consumptive demand, though this is of little avail when parcels are pressed on the market. Rolls are offering freely at 21c. to 22c.; buyers indifferent and stocks of rolls accumulating. In shipping rolls to this or any other market, special care should be taken to pack in clean boxes, encased with new lining. We quote nominal prices closing to-day,—Common, 19c. to 20c.; good even colored 20c. to 21c.; choice Dairy, for city grocers, 25c. to 24c.

Dressed Hogs.—The market for dressed is moderately active, with increased receipts. The quality is improving, and arrivals are keenly competed for, when weights are good and well landed. Prices are generally considered safe until after Christmas, when country shipments will arrive more freely. We quote light, say under 150 lbs., at \$6 to \$6.25c.; medium to good, 170 lbs. to 200 lbs., \$6.50c. to \$6.75c.; heavy, fit for mess, or fat middles \$6.90c. to \$7.20c. Some extra choice bring \$7.50c.

Cheese.—The market remains steady at from 11c. to 11 1/2c. in lots. There is no shipping demand.

Pork.—The market is bare for mess, only a small quantity in the city. Holders ask \$22.50c. to \$23c. Prime Mess has been in better supply and sold freely at from \$17 to \$17.50c. No prime in the market. Packers are not yet doing much.

Bacon.—There is very little offering. Prices range from 9 1/2c. to 10c., for Cumberland; 10 1/2c. to 10 3/4c., boxed.

Lard.—Only a local demand. Prices remain steady at 14c. to 15c.

Hams.—In good demand for local use. Selling from 12 1/2c. to 13c., smoked.

Eggs.—Selling in lots at from 18c. to 20c., with a good demand.

Goderich Markets.—Dec. 12.—Fall Wheat, \$1 to \$1.15c.; spring wheat, 85c. to 90c. Oats, 50c. to 55c. Peas, 70c. to 75c. Potatoes, 75c. Butter, 22c.

Seaforth Markets.—Dec. 12.—Fall Wheat, \$1 to \$1.12 1/2c.; spring wheat, 85c. to 90c. Oats, 46c. to 48c. Peas, 65c. to 70c. Barley, \$1 to \$1.20c.

Owen Sound Markets.—Dec. 12.—Fall Wheat, 85c. to 90c.; spring wheat, 80c. to 85c. Barley, 75c. Oats, 60c. Peas, 70c. to 75c.

London Markets, Dec. 12.—White fall wheat, \$1.05 to \$1.10; red fall wheat, 90c. to 92c.; spring wheat, 90c. to 98c. Barley, \$1.6 to \$1.15. Oats, 60c. Peas, 75c. to 80c.

Hamilton Markets.—Dec. 12.—White fall wheat, \$1.15 to \$1.20; red winter wheat, \$1 to \$1.03; spring, \$1 to \$1.30. Oats, 63c. to 65c. Peas, 80c. to 85c.

Montreal Markets.—Dec. 14.—Flour—Superior Extra, none; Extra, \$5.20c. to \$5.75c.; Fancy, \$5 to \$5.10c.; Welland Canal Superfine, \$5 to \$5.6c.; Superfine No. 1 Canada Wheat, \$4.90c. to \$5.15c.; No. 1 Western Wheat, \$5 to \$5.6c.; No. 2 do, \$4.60c. to \$4.70c.; Fine, \$4.35c. to \$4.40c.; Middlings, \$3.75c. to \$4; Pollards, \$3 to \$3.60c. Wheat—Spring, \$1.10c.; Western, \$1.8c. to \$1.12c. Oats—Per 32 lbs., 47c. to 49c. Barley—Per 48 lbs., \$1.20c. to \$1.30c. Butter—Nominal. Cheese—Factory 10c. to 11 1/2c.; Dairy, 9c. to 10 1/2c. Pork—Mess, \$22.60; Thin mess, \$20; Primo Mess, \$18; Prime, \$15.

New York Produce Market.—Flour—Less active; receipts, 65,000 barrels; sales, 8,100 bbls. at \$5.65c. to \$6.35c. for superior State and Western; \$7 to \$7.65c. for common to choice extra State; \$8.85c. to \$9.10c. for common to choice extra western. Rye Flour—Quiet, at \$6.75c. to \$9.60c. Wheat—Dull and heavy; receipts, 1,400 bushels; sales, 10,000 bushels, at \$1.60c. to \$1.60c. for No. 2 spring; \$1.90c. for winter red state; \$1.90c. to \$2 for Amber Michigan; \$2.25c. for White Michigan. Rye—Quiet. Corn—Dull; receipts, 29,000 bush.; sales, 29,000 bushels at \$1.10c. to \$1.13c. for unshelled; \$1.13c. to \$1.16c. for sound mixed Western; \$1.10c. to \$1.12c. for new white Southern. Barley—Quiet and firmer. Oats—Firmer; receipts, 3,100 bushels; sales, 20,000 bushels, at 77c. for Western in store; 79c. for do afloat. Pork—Quiet and firmer, at \$25.50c. to \$26 for new mess; \$25.60c., to \$25.75 for old do. Lard—Firmer, at 15 1/2c. to 16 1/2c. for steam; 16 1/2c. to 16 3/4c. for kettle rendered.

Milwaukee Markets.—Dec. 14, noon.—Wm. Young & Co.'s report.—Wheat—Receipts, 29,000 bushels; shipments, 2,000; No. 1, opened earlier at \$1.25 1/2c.; No. 2, earlier at \$1.16 1/2c. Flour less active at \$5.75. Pork firm, asking \$24.

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