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THE CANADA FARMER

VOL. IV. No. 8. TORONTO, UPPER CANADA, APRIL 15, 1867. POSTAGE FREE.

The Field.

Familiar Talks on Agricultural Principles.

GRASS CROPS.

THE grasses, it has been well observed, "are nature's care." They grow spontaneously in all parts of the world, and are a most important source of food both for man and beast. But though in a state of nature they grow without culture, they well repay the study and application of agricultural principles by the intelligent and skilled husbandman.

Properly speaking, the grasses include most of the grains cultivated and used by man, as wheat, rye, Indian corn, barley and rice, all of which have leaves and stems very similar to those of the plants popularly known as grasses. The general designation of grasses is, in a common way of speaking, given to certain plants, mostly leguminous, which do not really belong to the grass family, such for example as the clovers, which belong to another class of plants altogether, though commonly ranked among the grasses.

In this country, the culture of grass crops must necessarily be a most important branch of practical farming, from the necessity of providing for the sustentation of stock through a long winter. The practice, now happily becoming so general, of raising root crops, to some extent lessens the cattle-keeper's dependence on grass, but after all it is of the highest importance that abundant stores of hay should be provided. With plenty of hay and roots, in addition to comfortable shelter for his animals, the farmer is independent, and may smile defiance at the longest and hardest winter that is ever known in Canada

In a brief "talk" on this subject, which is a very wide one, we can only touch on two or three points in reference to which agricultural principles need to be better understood in their application to grass crops. And first, farmers require to be reminded that these crops, like others, cannot be grown unless there is nutriment for them in the soil. The idea that any description of land, however poor, will raise grass, is extensively entertained, and also that hay may be cut year after year without supplying loss by means of manure. It should be known more widely than it is that timothy, one of the most valuable and widely-cultivated grasses, requires very much the same substances in the soil as grain crops, in order to be grown with profit. The failure of grass crops, often regarded as a mysterious matter, and vaguely attributed to faults in the seed or peculiarities in the season, if not to that extensive mischief-maker "bad-luck," may often find its true explanation in the impoverished condition of the soil, and at once its prevention and cure in the enrichment of the land. As to expecting successive hay crops from ground to which no equivalent for what is taken out of it is given in the way of top-dressing or liquid manure, it is so unreasonable and absurd, that the wonder is intelligent people should have ever been foolish enough to indulge such an expectation. Chemical analysis of the ash of timothy gives the following result: Silica, 31.09; Phosphoric acid, 11.29; Sulphuric acid, 4.86; Carbonic acid, 4.02; Lime, 14.94; Magnesia, 5.30; Peroxide of iron, trace; Potash, 24.25; Chloride of Potassium, .70; Chloride of Sodium, 3.24. It follows that land is only fit to be seeded down to grass when it is in good heart, and that even then not more than one, or at most two crops, should be taken without the application of a good top-dressing of some kind, which should be repeated annually, so long as hay continues to be cut. By generously top-dressing meadow land, several good yields of hay may be obtained from it, after which it may be left, if desirable, for pasturage. It is, however, the poorest and most discouraging kind of farming to attempt to grow hay on worn-out land; and while, if desired, successive grass crops may be obtained in the way just described, it will be found, on a plan of mixed husbandry, that the best method is to alternate grass with other crops, allowing say two years in the rotation to grass.

Another point that deserves more attention is the wisdom of sowing a variety of grasses in conjunction with each other, especially when it is intended to form what are called permanent grass lands. In this respect, a lesson may be learnt from nature's economy of grass-growing. If a piece of natural green sward be closely examined, it will be found to comprise a great variety of kinds. The advantages of imitating nature in this respect will appear obvious on a little reflection. Some grasses are early, and others late in the season; some flourish better in wet seasons than others; some endure drought more patiently than others; some are more liable to suffer from early and late frosts than others; some run out more quickly than others. This policy of mixing seeds is to some extent acted on, but it needs to be carried out more fully, and experiments with particular grasses in various parts of the country would, no doubt, be of great value in showing what sorts were likely to succeed best in different localities. The usual course with the great majority of our farmers is to sow a mixture of timothy and clover, but it is certainly advisable to increase the variety. Red-top is often sown with timothy and clover, in which case the clover quickly disappears, timothy follows, and ultimately red-top, with a few self-sown wild grasses, occupies the ground. In England it is common to sow, along with timothy and clover, rye-grass, meadow fox-tail, cocksfoot, meadow and hard fescue, several sorts of meadow grass, sweet-scented vernal grass, and others too numerous to mention. While, no doubt, the moist climate of the "sea-girt isle" has much to do with producing the thick, luxuriant velvety sward for which England is so famous, we have no doubt that the custom of sowing a miscellany of grasses, and also of top-dressing permanent meadow and pasture lands, aids in no small degree, and in this, as in many other respects, we may copy old-country husbandry to advantage.

Another important matter, and one that cannot be too strongly pressed upon the attention of Canadian farmers, is the cultivation of clover. This will flourish in soil of only moderate capacity, provided it contains a good proportion of potash, lime, and gypsum, while the great advantages this plant confers on the land in which it grows, render if of the highest value. Clover sends its roots deeply into the soil, living to a considerable extent on the subsoil, and what is derived by the action of its leaves from the atmosphere. There is no better green manure than a crop of clover ploughed under when in bloom. This plant requires a deep, dry soil, and some care the season it is sown, in order that it may not be enfeebled by close cutting when the grain is reaped, or destroyed by turning in cattle and sheep during the fall. The cost of seed deters many farmers from growing clover, but with a little attention and care this difficulty may be obviated by farmers growing their own seed.

In conclusion, we will only add that grass crops, when grown for fodder, should be cut early. A large amount of the hay produced all over the country is rendered worthless or nearly so by being allowed to stand too long. It should be cut while the stalk is yet tender and full of nutritive juices, and never left to mature seed, unless the crop is grown for the purpose of obtaining seed, and not for feeding stock.

On the Cultivation of Hops.

SETTING OUT AND PLANTING.—The general mode of planting hops is to place the hills at equal distances, either square or triangular, the distance between each hill varying from six to seven feet, according to the strength of the soil, and the habit of growth of the variety cultivated. We have seen hops planted in rows eight or nine feet apart, in hills only three or four feet asunder. This is a very objectionable system in many points of view, and offers but a single advantage, and that more apparent than real; the facility of ploughing and cultivating the ground. The hills should be planted, whether square or triangular, at equal distances from each other, thus affording an equal access of solar action and free circulation of air, processes of the utmost importance to the uniform growth and maturity of the crop. Six feet may be considered the minimum distance, for less than that it is found impracticable to work the land by the horse hoe, during the period of growth; and there are few soils so strong, and varieties worth cultivating so rough and biny, that seven feet is not sufficient.

The ground being properly prepared, and the sort for planting, and the distance, whether square or tri-

angular, determined, the next step is to mark the places for the hills, an operation which cannot be performed with too much exactness. The rows of hops should be perfectly straight and regular in all directions, thereby rendering cultivation easier, and less subject to injury to the growing crop, and opening up the whole plantation in a uniform manner to the beneficent action of heat, light, and air." "Set out with chains (two land measuring chains will answer the purpose very well) nine or ten hills, as there may be length of chain, putting down sticks, which we will term station sticks, all over the ground at that distance, and then with a line marked with feathers, or coloured worsted, or something equally conspicuous, at the distance the hills are intended to be, and of a length equal to the distance of two stations, eighteen or twenty hills, as the case may be, proceed to set out the hills all over the ground, keeping the line (which should be well stretched before it is marked) sufficiently tight to reach exactly the length of the two stations, putting down a stick to every mark on the line, setting it out in rows of two stations' distance first, and then stretch the line across between the sticks in the rows, putting down a stick to every mark as before, which will finish as proceeded with. This method will set them out perfectly correct if care be taken with the chains, for as the chains will not err, neither can the line err, when made to reach the station sticks set out with the chains; small sticks, cut about 1½ feet long, are what is required."

The following table will show the number of hills on an acre of square plant, and triangular, at the same distances, and the difference:—

	Square.	Triangular.	Difference.
6 feet distance between the hills..	1210 hills.	1406 hills.	196 hills.
6 " 3 inches.....	1117 "	1296 "	179 "
6 " 6 "	1031 "	1194 "	163 "
6 " 9 "	957 "	1103 "	146 "
7 " 0 "	889 "	1025 "	136 "

It will be seen from the above, that the triangular form admits more hills per acre than the square at the same distance, in both cases, between the hills. Perhaps, in most instances, it would be better, when the triangular form is adopted, to put the hills further apart, so as not to exceed the number on the square. The advantages of the triangular form consist in admitting the ground to be cultivated in three directions, and in case of three poles being put triangularly to each hill, enabling the horse hoe to go as close to the hill as is compatible with safety, thereby stirring the whole of the ground; and also admitting light and air more freely to the plantation as a whole. The advantages, however, of this over the other form in a dry, bright climate like that of Canada, are not found in practice so great as to render it a matter of much importance in a considerable number of instances.

After the ground is correctly set out, each stick will represent the centre of a hill, and in good mellow soil well worked and prepared, nothing more is required than to plant perpendicularly a cutting in the place occupied by the stick, with three others around it in a sloping direction, with the upper ends inclining to the centre, pressing, with the hand or foot, the earth closely round the cuttings, covering their tops slightly with the soil, and replacing the stick to denote the site of the hill. In case the ground is poor and has been subjected to arable culture, it will be necessary to make square holes with a spade, about two feet deep and eighteen inches wide, taking each stick as the centre. These holes should have each a large shovelful of well rotted dung, thoroughly incorporated with the best surface mould, trodden down by the foot, and the planting proceeded with as before described. Hops should be planted as early in the spring as is practicable, that is, as soon as the ground is dry enough to work and its surface is getting warm. Everything should be in readiness as much as possible before the time of planting arrives, for a few days only of unnecessary delay may, in our short season, affect injuriously the growth of the cuttings, which should be put into the ground as fresh as possible. Late planting, followed by subsequent drought such as is not uncommon in our climate in spring, would jeopardize the whole undertaking.

It is a commendable practice to put to each hill a stick three or four feet long for the young bines to trail up, by thus allowing the plant from it earliest growth to follow its natural habits as a climber, its development becomes facilitated, though it is a common practice to allow the young bines to spread on the surface and afterwards twist them into a knot. The greatest care should be taken to have the ground perfectly clear of weeds, especially when the hills are formed; for if couch grass or any other weeds of a similar character get possession of the hill it will be found exceedingly troublesome, if not wholly impracticable, to eradicate them without seriously injuring the roots of the hops. As hops from cuttings do not produce the first year, if the land be manured or naturally rich, Indian corn or root crops may be grown, but this should not be attempted when the soil is not of first quality, and in all cases care should be taken to give the young hops plenty of room, light and air. During the summer, the frequent stirring of the surface by either the horse or hand hoe should be proceeded with, not only to keep down weeds, but to promote the growth of the young plants. The occasional moving of the soil during our hot, dry summers, is exceedingly beneficial to all growing crops that admit of the operation; air and moisture are thereby more freely admitted, with the constituents of plant food to the spreading roots; but in case of hops, particularly, care must be taken that they are not unnecessarily disturbed or broken, during the later periods of growth.

With regard to preparation it may be further observed, that if cuttings be closely planted in beds in spring they will strike root and form nursery plants well matured by October, when they can be planted two or three in a hill, as their strength may be. In this way hop planting may be commenced in the fall, and such nursery sets will be more certain of growing than mere cuttings in the spring, and will generally produce more or less hops the following year. But in this country, as a general thing, spring planting will, perhaps, be found more convenient; and if done in good time, with a due observance of the things before mentioned, success may be depended on. A few nursery plants, however, should always be at hand, to replace in the fall such as may fall through the summer. In this way uniformity in the plantation, which is an important point to secure, may be obtained.

Salt as Manure.

To the Editor of The Canada Farmer:

Sir,—My attention has been called to some expressions of doubt in the Canada Farmer relative to the value of common salt as a manure, at which I feel great surprise. It is difficult to conceive that the practice of British and German Agriculturists in this respect, and the recorded experiments of Liebig and other agricultural chemists, should be so unknown in Canada as to require at this day an assertion of the great value of salt as a fertilizer. If the matter had to be treated as one of mere theory, it would be easy to account for the existence of a doubt as to the value of this mineral; because the majority of agricultural chemists, while teaching many fundamental truths, have mingled them with a great mass of error, by holding too stringently to the doctrine that, to preserve the normal fertility of the soil, we must add to it the precise mineral matters extracted from it by the crop, *plus* the constituents derived from the air. Salt is rarely found, and only in small quantities, in grass or grain, and therefore it may be supposed that it is but little necessary to their growth.

Manures are of three kinds; those which replace the minerals withdrawn from the soil; those which increase its power to attract nitrogen and carbonic acid from the atmosphere; and those which increase the sum of mineral matter in the soil available for plant food by increasing their solubility, and consequently their mechanical distribution. Of this last class is salt.

If the reader will refer to Liebig's "Letters on Modern Agriculture," he will obtain the results of experiments with salt as a manure which considerably astonished Baron Liebig, but led him only to the outer verge of a great agricultural discovery, of which I shall have more to tell you at another time.

In 1846 Kuhlman had found that the addition of 292 lbs. of common salt to the manure of a hay field increased the product 1,408 lbs., and later experiments gave a still larger increase; the general result being that whatever the manure used, its activity, as demonstrated by the increase of crop, was greatly stimulated by the addition of salt.

In 1857, the General Committee of the Agricultural Society of Bavaria made a series of experiments with salt as an addition to other manures at Bagenhausen, near Munich, which will be found detailed by Liebig in the work previously alluded to. He says of the result:—"In every case the crop was increased by the addition of common salt; when used with carbonate of ammonia it doubled the produce of grain, and with nitrate of ammonia it raised the return of corn 90 per cent., and of straw 120 per cent." In these experiments the quantity of salt used was only 6½ lbs. to 1,904 square feet of land.

Liebig then proceeds to account for the result by attributing it to the property which salt possesses of dissolving the earthy phosphates in the soil, and thus fitting them for plant food, but he overlooked its power also to render silica soluble for the same purpose. Salt upon grain crops gives a hard bright straw, with great strength and resistance, as well as increasing the product of both grain and straw. The rapidly diminishing product of the grain fields of this continent is due in a much larger degree to the absence of this solvent in the soil than to the exhaustion of potash and the phosphates. The very greediness that cattle show for it is an evidence that their natural food lacks this mineral; and I have seen cattle wintered on nothing but straw moistened with brine come out in the spring fat and sleek, when others that had their fill of good hay, and little or no salt, were mere bags of bones in lousy, mangy hides.

The quantity to be used on grass or grain depends greatly on the character of the soil, and must be determined by experiment. I have known twenty bushels used, and have seen the crop doubled with from eight to ten. In England, at the present time, great results are obtained by making a compost at the beginning of winter with 100 bushels of lime slacked with 6 bushels of salt dissolved in water; this is made under cover, and it is turned three or four times, and not used until six months old. The result is a chemical decomposition, partially double, which increases the activity of both substances, but I think hardly in a degree supposed.

Next Fall, I propose to give you the result of my own experiments, and perhaps to indicate another theory as to the peculiar action of salt as a solvent, and to point out the means by which our grain and grass crops may be enormously increased—that indeed by which nature formed our soils from apparently insoluble rocks, and treasured up in them the minerals necessary for tens of thousands of crops. In the meantime, I hope the farmers of Canada will give a fair trial to salt as a manure. They are invited to no new and doubtful experiment; the effect must be largely beneficial unless their land is in the highest possible condition of fertility as regards the solubility of the mineral plant food; in that exceptional and almost impossible case, if it does no good it can do no harm. I had almost forgotten to say that Mr. Lawes of England, a name well known to scientific agriculturists for his experiments on the relative value of manures, and his controversy with Liebig in opposition to the mineral theory, has thoroughly established the value of salt as a manure in every combination. The details of his experiments will be found in the transactions of the Agricultural Society of England.

A Believer in Salt.

Montreal, March 5th, 1867.

Note by Ed. C. F.—We have great pleasure in publishing the above excellent communication, though we think our correspondent has somewhat misapprehended the remarks in this journal to which he refers. It is true that salt has not been at all extensively used in Upper Canada as a manure; it is also true that its merits are not, on all hands, unquestionably admitted. Moreover, the best agricultural authorities in the world are at variance as to the merits of salt as a fertilizer. Hence we felt some reluctance about giving specific directions in regard to its use. We are glad, however, to find that one important end we have in view in the conduct of this journal is being accomplished, by inducing farmers themselves and men of practical knowledge to communicate to one another and to the public through these pages, the results of their individual experience. Our increasing correspondence is an encouraging assurance to us of the progress we are making, and the interest that is being aroused in agricultural science and practice; and it is further most gratifying to find that communications from our Canadian farmers have not only enriched our own columns, but have been copied from them and re-published by some of the first agricultural papers in England.

Cost and Profit of a Root Crop.

To the Editor of THE CANADA FARMER:

SIR,—In the 6th No. of the present volume of the CANADA FARMER an able article appeared on the "turnip and other root crops," calling the attention of farmers to the cultivation of roots. One reason mentioned why farmers did not raise more roots was the "enormous amount of labour which, they supposed, had to be expended on them." No doubt this is one of the chief reasons why roots are not more cultivated, and is especially a great "bugbear" with the numerous class who do not keep an account of the labour expended on the farm.

Below you will find my account of my root crop last year, and the cost per bushel.

	On 1 5 6 acre.			Dr.
To ploughing (Fall & Spring) & harrowing	@ $2 50	per diem		$ 7 75
" Rowing	"	"	"	2 00
" Drilling seed	2½ days	" 0 75	"	1 62½
" Seed				1 75
" Scuffling (twice)	1 day.	" 2 00	"	2 00
" Hoeing	19 days	" 0 75	"	14 25
" Transplanting	3 days.	" 0 75	"	2 25
" Digging and topping	22½ days.	" 0 75	"	16 75
" Storing and hauling				9 50
" Rent and taxes				8 12½
Total,				$60 00
	1 5 6 acre			Cr.

By 300 bushels mangold wurzel & 750 bushels carrots, 1050 bush.

Although this is not a very large yield, it will be seen that it cost only six and two-sevenths cents per bushel, while the price in Toronto is about twenty cents I consider that it paid me better than any crop which I raised last year; and if farmers would once commence raising roots they would find it not only profitable in the crop of roots, but also in its effects on succeeding crops. Farmers, keep an account of your crops, and you will discover that it will pay *directly* as well as *indirectly* to raise roots.

JULIUS.

York Township.

Extraordinary Root Crop.

THE farm connected with the Deer Island House of Industry, Massachusetts, under the superintendence of Thomas E. Payson, formerly of Rowley, produced a result in connection with root husbandry that is deemed note-worthy, and one that cannot fail to interest and instruct many of our readers.

The past year 4½ acres were used for growing mangel wurzels, and produced a gross weight of 294 tons. One measured acre of these mangels yielded 73 tons, by the scales; the tops, as estimated, would have yielded 5 tons more, making an aggregate of 78 tons, the largest produce per acre it is claimed, on record in this country.

Mr. P. states that this acre was planted to potatoes in 1863, to carrots in 1864, onions in 1865, and to mangels in 1866, in drills, 2½ feet apart. In the years previous to 1866, the ground was manured with kelp and stable manure, at the rate of twenty cords annually In the autumn of 1865 as much kelp was used as could be ploughed in, and no manure in the spring of 1866; it being differently treated in this respect from the rest of the 4-acre plot. It was ploughed again in the spring, and sowed the last of April, with four pounds of seed per acre, and the quantity of young plants subsequently pulled out was enormous. Thinning is easier, however, than supplying a deficiency. The plants did not cease growing until harvested. He had a specimen of the roots analyzed, and they were found to contain the same amount of saccharine as the sugar beet, grown on a different location.

Mr. P. adds, that mangels, under the same circumstances, produce at least 33 1-3 per cent. more than sugar beets, and therefore are a much more profitable crop. When sown early, they are a sure crop, and if the soil is well manured, the leaves soon cover the ground and check the growth of weeds, and he says that they produce more than any other root for the labour invested.

Of carrots he had four acres, which produced 117 tons. His flat turnip crop was also large. This was the result of kelp, with manure and good husbandry; the former is thrown up in abundance on the island, all of which is saved and composted, or else ploughed in, and thus composted in the soil's tilth. There are also large supplies of manure from stables and piggeries. Thus has good husbandry, by the aid of the sea and the stable, converted a once barren isle into an exceedingly productive farm. The Garden Committee of the Massachusetts Horticultural Society, of which W. C. Strong acted as chairman, awarded to Mr. Payson a gratuity of $25, in consideration of his extraordinary mangel and carrot crops.—*Boston Cultivator.*

The Effects of Snow on Agriculture.

[CORRESPONDENCE OF THE "WEST BRITON."]

SIR,—There is an opinion generally entertained that a covering of snow protects the tender blade of wheat, and shelters young grass plants during the severe cold. The present invasion of snow, and a very low temperature continued for many days, has afforded a good opportunity to investigate this subject; and I now send you the results of some observations made near my house, at a height of 190 feet above the sea. The deductions are interesting from a scientific point of view, and may not be without a valuable practical application.

The thermometers used were first tested by a Kew standard and with each other, and were placed as follows: No. 1, on the surface of the grass, under four inches of snow. No. 2, in the air, one inch above the surface of the snow. No. 3, in the air, four feet above the surface of the snow. The two thermometers in the air were freely exposed and uncovered; but no ray from the sun could touch them, and the air was dry, without snow or rain falling.

I will not trouble you with the various readings of the instruments, but will only give the results deduced from them.

During the day time, when the general temperature of the air was little above the freezing point, the air at the surface of the snow was 4 degs. colder; and under the snow the thermometer remained steadily at 32 degs., the freezing point. The snow the first day or two of its fall was in a melting state at its base both by day and night.

The night of the 15th was very cold, and the minimum of the thermometers stood at No. 1, 28 degs.; No. 2, 10 degs.; No. 3, 15 degs. The air on the surface of the snow was 5 degs. colder than four feet above it; and the surface of the soil was 18 degs. warmer than the surface of the snow. Thus a coating of only four inches of snow so repelled the cold that there was a difference of 18 degs. between the two sides of the thin snow bed, an amount of heat equal to the difference of the mean temperatures of January and June in Cornwall.

We may, therefore, arrive at the conclusion that a covering of snow tends greatly to shelter young vegetation during periods of extreme cold, and that its beneficial effect in this respect has rather been underrated than otherwise.

The steadiness of the temperature under the snow, compared with that of the air, further tended to protect the plants. The sap vessels of vegetable fibre are burst and disrupted by the variations of frost and thaw. If a frozen blade of wheat be held between the eye and the sun, the ruptured state of the vessels may be distinctly seen. In this respect also the snow is a great preserver.

The air on the upper surface of the snow at night is intensely cold; on a calm night the minimum thermometer fell as low as 8 degs.; and when this great cold is intensified by a wind from the N.E. sheep and cattle (especially the young stock) exposed in the open field to its influence must suffer both in constitution and in weight. Heat is to some extent an equivalent for food, and the exposure to such a low temperature will often do more injury than many weeks of generous feeding will restore. Shelter should be provided by straw-yards and open linhays.

The observations further show that a snow bed mostly rests on a melting base, and the often rapid disappearance of snow mainly results from the continued waste of its lower stratum. That this must be so, unless the ground is first chilled by severe frost, is evident from the following considerations: The mean temperature of the soil in January at Truro is 45 degs., of the River Allen 46½ degs., and of deep-seated springs 52 degs.; thus the crust of the earth contains a body of heat which no transient superficial cold can nullify, and the effect of frost is repelled from its outer rind by a power far more steady and effective than a stratum of cold air. The snow acts like a blanket, and retains the heat; it in no way creates it. There is also a vague notion that snow has a manuring effect. But this appears to have arisen from observing that wheat which has been protected by snow grows much more rapidly afterwards than that which has been exposed to severe cold. But this arises from the plant being uninjured, both in blade and root, compared with the broken sap-vessels of the exposed plant. In the same manner a thin covering of straw keeps the plant warm, and greatly promotes the early and rapid growth of spring grass.

NICHOLAS WHITLEY.

TRURO, Jan. 19, 1867.

Surface Manuring.

I believe in it. I cherish the belief that surface manuring is *the way* to manure. Every farmer aims to enrich his farm. Let me tell him in a few plain words how to do it, and then, after reading this plan, let him think over his past experience in farming, and see if it does not corroborate what is said here.

Apply manure chiefly to your tillage lands while in grass. By so doing you produce a strong, stiff sward, filled with grass roots. If these roots are of clover, so much the better. If you succeed in growing a good crop of grass on a poor soil you have done two things —made your land much better, and gained a good crop. As soon, or before the soil begins to show signs of failure, plough or manure again. If you plough you have a wealth of grass roots decaying for the food of growing crops. Re-seed before the land gets exhausted, and do it bountifully. If you scrimp and starve elsewhere, don't do it when seeding to grass. Aim to have a sward as early as possible. To accomplish this you should seed liberally. When the sward is formed you have another crop of manure to plough under. In seeding land it is better not to be confined to one kind of grass. In this manner lands may be managed for centuries without any material deterioration.

As a further argument in favor of surface manuring, I mention that it is Nature's way. The soil is on the top of the earth, irrigation deposits its fertilizing elements on the surface. Manure applied to the surface is acted upon by the light, heat and rains—its elements are much more slowly evolved in the earth than on the surface. Every farmer should investigate this subject for himself and make his own conclusions.

G.

STEEP FOR SEED WHEAT.—The agricultural editor of the *London Field* recommends the following pickle for seed wheat, which, although too late for use at present, may be submitted for record and reference: Take a half hogshead and fill two-thirds full with a solution of caustic vitriol (six gallons of water to four pounds of vitriol); put into the tub a suitably shaped wicker basket capable of holding one and a half bushels of wheat; pour the wheat gently into the basket. All light and defective seeds will float on the top, and can be skimmed off. This being done, the basket is raised out of the water and allowed to drain a minute or two, and then emptied on to the floor and left for a night to dry. Eight bushels of wheat can be pickled in from fifteen to twenty minutes. Seed is generally pickled the day before it is intended to sow; but it does not signify if it is done earlier, and we have heard of some farmers who dressed all their seed wheat at the commencement of sowing time. The seed should be as even as we can obtain it, and if it contains light taily corn, it will answer to blow it over and remove all the poorer part.

FROST HELPS THE FARMER.—In this climate winter rarely sets in until from frequent and heavy rains the ground is pretty thoroughly saturated with water. It would be a misfortune to the agriculturist to have the soil freeze solid and permanently for the season on the heels of a drouth. Wells and springs would fail in the winter time, and the action of frost could not prove so beneficial to the land as if larger quantities of water were present in it. Few take note of the actual effect of freezing and thawing upon all kinds of soil, more especially on the heavy, and therefore more retentive ones. These most need the action of the frost, and nature has provided for them to receive it to a greater extent than light, porous soils. The water is dispersed through all the pores of the soil, and by its expansion when frozen it cracks, pulverizes, lifts apart the particles from each other, to a more minute degree than it is possible to accomplish by any machinery. While this action is favourable to the extension of the roots of plants, it doubtless sets free much plant food which is physically so combined as before to be unavailable as fertilizers. So the looser the soil is left before winter the better will be the action of the frost upon it. On heavy lands, spaded gardens and ploughed fields late in autumn are signs of good husbandry.—*Rural New Yorker*

A Model English Farm.

To the Editor of The Canada Farmer:

Sir,—Thinking that some of your readers might be interested in reading the detailed account of the management of a model English farm of rather above the average size, and farmed in somewhat tip-top style. I propose, through your valuable columns, to give a description of a farm of 800 acres in Berkshire, on which I was myself residing a short time since, for nearly two years. In describing it I shall follow the same course which I should myself wish any one else to do were they describing anything to me—namely, to use plain language and give the things in detail.

The farm is, as I have said, about 800 acres in extent; of this 300 are arable and the remaining 500 grass. A bailiff superintends the work of the farm, and about 15 men are constantly employed throughout the year, besides 7 or 8 boys, and half a dozen women. The farm buildings (which, as a model piece of architecture, have already been noticed in several modern agricultural works) were erected about 15 years ago. They are both extensive and complete in their arrangements, occupying nearly two acres of land, and built entirely of stone dug on the estate; they occupy a central position—the farm extending about a mile on either side of them. The soil is varied, but the greater part heavy, with subsoil of Oxford clay; on one side is stone-brash with a sandy loam, but this is of small extent in proportion to the size of the farm. The farm is kept in a high state of cultivation by constant cleaning, and a free use of manure. The cattle are of the pure Short-horn breed, and the sheep South-downs; the former comprise a herd of 150 head, the latter a flock of 800, and about 80 or 90 pigs are also kept. All oats, beans, peas and barley, with most of the inferior wheat, is consumed on the farm, and thus the yield of manure is very considerable. The horses are of the Suffolk breed—16 in number. The wages of the men are about $2 50 per week, and boys and women earn about $1. Herdsman, shepherd, carter, and such as hold a more responsible position, receive from 50c to 60c per day—they are also allowed beer.

The working hours for the men are in summer from 6 a.m. till 6 p.m.—½ an hour being allowed at 9 a.m. and an hour at 1 p.m.; in winter the work of course varies according to the amount of daylight. The horses break off from work an hour earlier than the men, and in summer stop for 1½ hours in the middle of the day, in winter only for ½ an hour, and break off earlier.

With this prelude, I will begin now, in the first place, with a brief description of the farm buildings. As has already been said, they are in every way most complete, and fitted up with all the best and newest contrivances of the day. They consist of barn with granary and engine-house attached, fatting houses, cattle-boxes and stalls, cart stable, sheep-house, piggeries, yards, outhouses, &c. The buildings are all roofed with slate and thoroughly ventilated. Down the centre of the fatting house and across the lower end is laid a tramway, by which food and litter is conveyed in a truck to the different boxes and stalls. The doors are all suspended by small grooved wheels to a horizontal bar across the doorway, so as to slide backwards and forwards.

Prominent among the buildings stands the barn,—being built on the side of a hill which was excavated for its reception—it opens upon two levels to the farm-buildings on the one side, and on the other to the rick-yard, some 15 feet or so higher up, the barn floor being on a level with the rick-yard, and the apartment or space beneath being used as a chaff or root-house. This arrangement adds much to the convenience of thrashing—as the straw when separated from the grain can be shifted down below by the action of the machine, or by closing a trap-door can be retained above and stacked up again in the rick yard; the grain, too, can be loaded without difficulty into waggons, through another trap-door opening over a covered passage beneath the barn.

The thrashing machine is a fixture—manufactured by Clayton and Shuttleworth, and is worked by an 8 horse-power portable steam-engine by the same maker; it is conveniently placed, with the feeding-board close to the door opening into the rick-yard, at which the waggons are unloaded when a rick is taken in; the grain, after being separated from the straw by the action of the drum and straw-shakers, is raised into a large hopper by the elevator, from which it passes into the dressing apparatus, and being thus separated by the action of the riddles and fans according to its quality, is received into sacks at the lower part of the machine, the spout through which the best wheat passes out being fitted with a weighing machine, over which the sack is hooked, and by a simple contrivance is made to ring a bell and shut off the flow of corn as soon as it has gained its full weight. The machine is fully capable of thrashing out 400 bushels of wheat per day, and prepares it so as to render winnowing quite unnecessary; the engine consumes on an average 6 cwt. of coal per day when in use.

The other pieces of machinery occupying the barn-floor are a chaff-cutter, a cake-crusher, a corn-mill, and a bean-crusher; although each of these machines is intended to be worked by steam power, steam is seldom got up purposely for them, unless for chaff-cutting in the winter-time, the cake-crusher being usually worked by hand, and the corn-mill being called into use only when the river is too low to allow of using the water-mill, the latter being found the most convenient and economical mode of grinding in a general way. In the granary, which opens into the barn on the same floor, are ten large corn-bins, capable of containing from 40 to 200 bushels each—with a spacious floor, on which grain intended for market is usually stood.

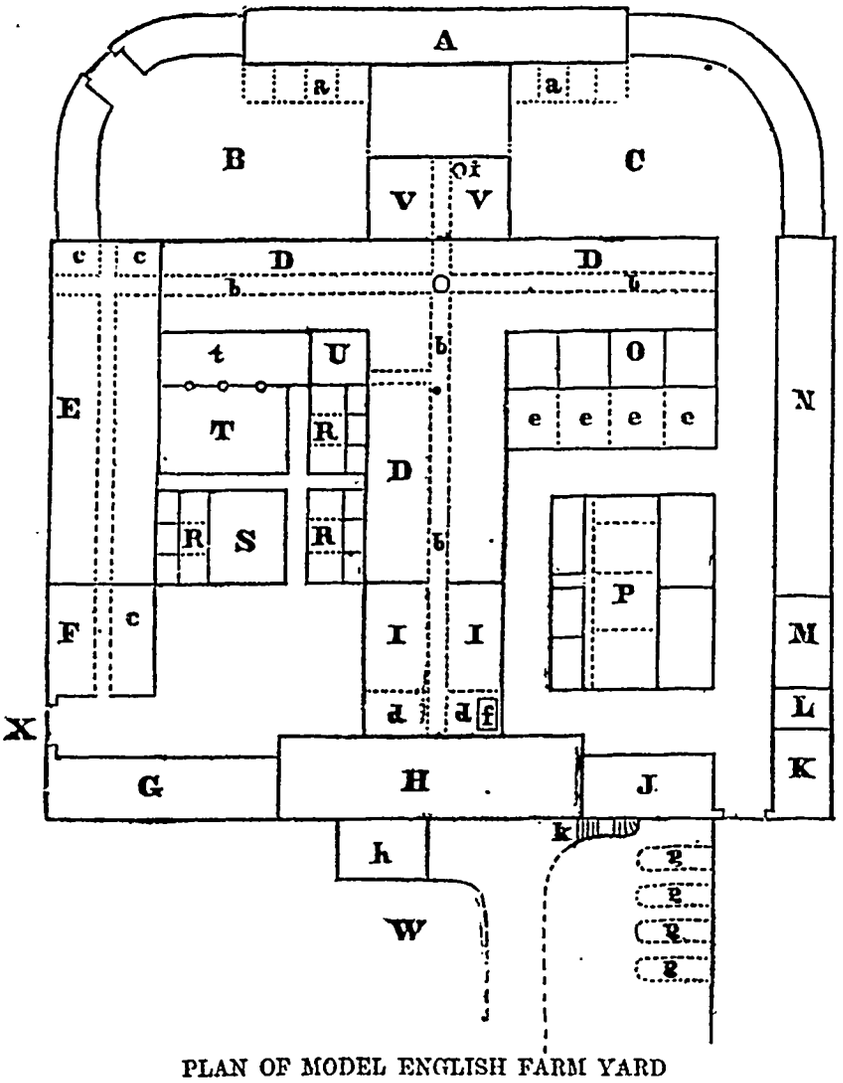
In my next I shall give an account of the accommodation for live stock, &c. E. F. W.

London, March 13, 1867.

Note by Ed. C. F.—Our correspondent having sent us a sketch of the model English farm-yard described in his letter, we have caused the accompanying engraving of it to be prepared for convenience of reference.

EXPLANATION OF CUT.

A Sheep house—with (a a) small yards
B Milking yard.
C. Sheep yard
D. Fatting house with (b b) tramway.
E. Milking house.
F. Hay house—(c c c) Calf pens.
G. Bailiff's house and hay stables.
H. Chaff house with granary above, (d d) covered passage under barn; (f) weighing machine for carts
J Implement house
K. Dwelling house for farm-boys.
L Root house.
M. Implement shed.
N. Cart-horse stable.
O. Houses for yearlings with (e e e e) yards.
P Fatting house for prize animals
R. Pig styes.
S. Pig yard.
T. Cattle yard with (t) covered shed.
U. Bull's house.
V. Manure pits with (v) wire pump.
W. Rick yard—about 15 feet higher level than the buildings, with (g g g g) waggon lodges hollowed out under the rick yard
X. Entrance gate.



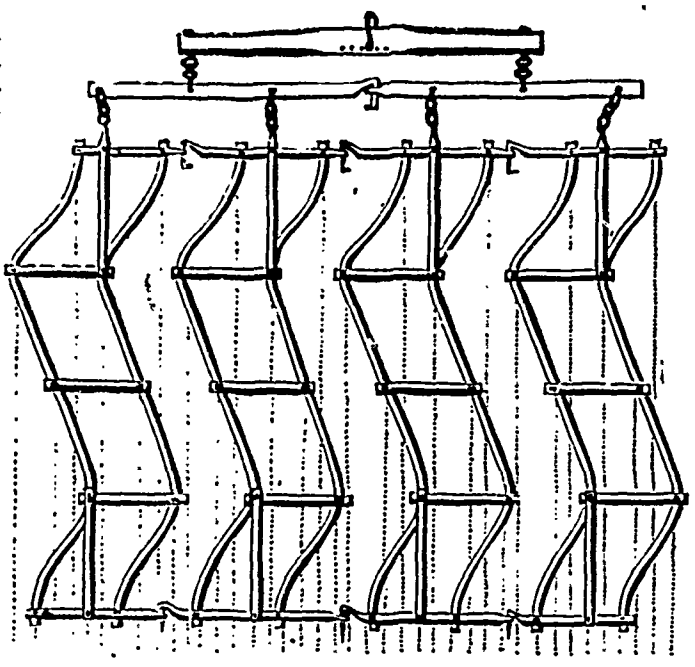
PLAN OF MODEL ENGLISH FARM YARD

Collard's First Prize Patent Iron Harrow.

The following is the manufacturer's description of the premium implement herewith illustrated: These harrows are made in two-row sections, with ten teeth in each section; four sections therefore constitute a harrow with forty teeth, and this is so arranged as to give an independent back and forward motion, and also a play up and down to each section. The hinges are made so that there is a connection, or joint, exactly behind each horse, and one between them; so that when either horse is walking in the furrow the harrow will readily adapt itself to the shape of the furrow, thus nicely dressing the edges of both lands at the same time; having besides a very lively motion when at work, the teeth are not liable to clog. Being in small sections, these harrows are very light and handy to move. A boy ten or twelve years old can with ease load or unload them. There is not a nut or key to remove when taking them apart

to move them from one field to another; consequently there are no small traps to lose; and a section must be raised to a right angle before it can be disconnected from the harrow. By taking out one of the inside sections and using one inside and the two outside sections, it makes a light thirty tooth harrow for one horse or a span of colts, and it can at any time be enlarged, by ordering one or more sections, so as to make a fifty or sixty tooth harrow. It can be used with either end forward. After using it for two or three seasons, if the front corners of the teeth become worn, change the draft hooks to the back end, which will bring the sharp corner of the teeth to the work; and in this way they may very readily be made to perform six or eight years' work with once sharpening.

The maker of these harrows, H. Collard, Gananoque, ships them to any part of Canada for $25, freight prepaid.



COLLARD'S PATENT IRON HARROW.

1st Prize Harrow, at the Provincial Exhibition of 1866.

Stock Department.

Grazing and Fattening Cattle.

We are indebted to Mr. Sheir, of Whitby, for the opportunity of seeing a copy of the *Banffshire Journal*, in which is given a valuable and interesting paper, read by Mr. McCombie, at the half-yearly meeting of the Chamber of Agriculture and Scottish Farmers' Club, held last year in the Hall of the Highland Society, Edinburgh. The subject of the paper was "The most profitable method of feeding stock, and the relative value of different substances for that purpose." Mr. McCombie is one of the most experienced and successful graziers and feeders of fat cattle in Scotland; his opinions are therefore entitled to great consideration; and the conditions of season and climate under which he pursued his profitable system in Aberdeenshire seem in many respects so similar to our own, that the directions he gives will, no doubt, be found serviceable to farmers in Canada. We therefore give in a condensed form the substance of those portions of the paper which are of most practical value to Canadians.

The Selection of Store Cattle.—In reference to this, Mr. McCombie says:—To be a good judge of store cattle is exceedingly difficult. No one has been able to put upon paper a clear definition, that can be understood by the reader, of the characteristics of a good store beast. It is only practice and a natural gift that can enable any one to master the subject. There are a few rules, however, that the buyer of store cattle should be acquainted with. He ought to know how they have been kept for the previous six months. Otherwise the subsequent keep may be entirely thrown away. Mr. McCombie makes it a rule (and has never departed from the rule without loss), to graze no cattle except those that have been kept in the open straw yard, and have been fed exclusively on turnips and straw. Yellow turnips are preferable at this stage of feeding to Swedes. Cattle fed on the latter will shoot far a-head of those fed on the yellow turnips, while both remain in the straw-yard; but when turned out to grass, the Swede-fed beasts are soon overtaken by those fed on the yellow kind.

Cattle Forced in the Winter will not be Profitable to the Grazier.—Any one who turns out to grass cattle that have been fed through the winter upon cake, corn, brewers' wash, grains, or potatoes, and kept in hot byres or close straw-yards, will be miserably disappointed in any expectation of profit. The mode of feeding has been unnatural, and before the animal begins to improve three months will have passed. Thus, not only is the grass, as it were, lost, but at the end of three months the beasts will perhaps be lighter than when first put into the field. A few weeks of cake or corn may not absolutely ruin a beast for grazing; but the less artificial food they get during the winter, if afterwards to be grazed, the better; and when kept upon the food above specified for several months, they are perfectly unfit for grazing. Cake is perhaps the safest substitute for turnips; potatoes, brewers' wash, and grains are the worst. The store cattle which Mr. McCombie winters for grazing are all kept in open straw yards, with a sufficient covering for bad weather, and with as dry a bed as the quantity of straw will permit. This is indispensable to the thriving of the cattle. They receive as many turnips as they will eat. Beasts must always be kept progressing, or they will never pay the feeder. Cake, corn, or potatoes are useful to fatting bullocks; but injurious to those intended for grazing. When turned out to grass, they still require careful superintendence. Shifting and fresh grass once in ten or fourteen days, should, if possible, be adopted. A marked improvement in the animals may often be observed in one day after the change of pasture. The grazier must also further consider the quality of his grass land, and buy cattle adapted for it. It would be bad policy to buy fine cattle for poor or middling land. A hardier breed must in that case be selected, and always attention must be paid to the manner in which they have been previously fed.

The Most Profitable Breeds to Rear.—The breeds of cattle which Mr. McCombie had grazed were the pure Aberdeen and Angus, the Aberdeen and north country crosses, the Highland, the Galloways, and what is termed in Angus the south country cattle, the Dutch, and the Jutland. Store cattle of the Aberdeen and Angus breeds he believes surpass all others for the purposes of the grazier. But there is a race of starved vermin which is known by some in the north of Scotland by the name of "Highland hummlies," which he considers the worst of all breeds. They will grow older—but never bigger. Keep is entirely thrown away on such animals. Good Aberdeen or north country crosses are profitable kinds. The Highlanders are well adapted for grazing, but are too wild and restless for any subsequent stall feeding. The Galloways possess many excellent qualities. If we except the small Highlander, on poor land they are unrivalled. But, although good cattle to graze, they are not so easily finished as the Aberdeen and Angus, or crossed cattle. They have too much thickness of skin and hair, too much timber in their legs, and they are too thick in their tails for being very fast feeders. It is difficult to make them ripe. They can be made three-quarters fat, but it is difficult to give them the last dip. If, however, this finishing success is attained, there is no other breed worth more by the pound weight than a first-class Galloway. After trying all the breeds of cattle specified, Mr. McCombie comes to the conclusion that the Aberdeen and Angus polled, and the Aberdeen and north country crosses are the only cattle adapted under ordinary circumstances, in the north of Scotland, for paying rent. The age of cattle ought to be taken into consideration. No doubt a young two-year-old will grow more than a three-year-old, and for a long keep may pay as well; but for a quick clearance the more aged cattle have the advantage. They get sooner fat, are deep in the fore-rib, and require less cake to finish them.

Features of a Perfect Animal.—A perfect breeding or feeding animal should have a fine expression of countenance—mild, serene and expressive. It should be fine in the bone, with clean muzzle, and a tail like a rat's. It should be short on the legs, and not ewe-necked. It should have a small well-put-on head, with a prominent eye; it should have a skin not too thick nor too thin, covered with fine, silky hair—to the touch like a lady's glove; it should be straight-backed; well ribbed up and well ribbed home; the hook bones should not be too wide apart. A wide-hooked animal, especially a cow after calving, always has a vacancy between the hook and the tail, and a want of the most valuable part of the carcase. A level line should run from the hook to the tail. The outline ought to be such that if a tape is stretched from the fore shoulder to the thigh, and from the shoulder along the back to the extremity there, the line should be close, with no vacancies; and the line should fall without a void from the hook to the tail. From the shoulder-blade to the head should be well filled up; as we say—good in the neck vein. Scarcely any one animal will possess all these marks—indeed, to look for the half of them in a good commercial animal would be vain. The marks are set down not in good order, but just as they occurred to one who had gained his knowledge from the study of the living specimens, and not from books. Thick legs, thick tails, and deep necks, with thick skin and bristly hair, always point to sluggish feeders.

Hints on Grazing.—The earlier cattle can be put on grass the better. Cattle never forget an early bite of new grass, and it is wonderful what improvement a good straw-yard bullock will make in four or five weeks at the beginning of the season. But much depends on the weather. During the whole of April, and the early part of May, the weather is so unsteady, and the cold nights, when the animals are exposed in the fields, take off the condition which the grass puts on. The grazier will find it of great advantage to house his cattle at night during this season. In Aberdeenshire, the 10th May is about the earliest period when cattle should be put to grass. Where there is new grass, it is necessary to be careful, at the beginning of the season, if much rain falls, not to allow the cattle to remain on the young grass. They must be shifted immediately, and no one can get the proper advantage of such grass who is deprived of the power of shifting the cattle into a field of older grass till the land again becomes firm for the cattle. A field of new grass, in the month of May or beginning of June, has sometimes been utterly ruined in one night when heavily stocked with cattle. When wet and cold, the cattle wander about during the whole night, and in the morning the fields are little better than ploughed land. In fact, the fields so injured will never recover till broken up again. Mr. McCombie's own practice is to pasture almost all the new grass; but the moment the cattle's feet begin to injure the grass, they are removed. New grass fields are difficult to manage in another respect. The grass comes very rapidly about the 10th of June, and if the grazier is not a good judge of what he is about, it will get away, in a few days become too rank, and will lose its feeding qualities during the remainder of the season. By the middle of July, it will be nothing but withered herbage. Young grass ought to be well eaten down, then relieved for two or three weeks, and then the cattle allowed to return. It requires practice to know the number of cattle, and the proper time to put on these cattle, to secure the full benefits of new grass. Three days' miscalculation may cause a heavy loss.

Hints as to Wintering.—The next point to consider is the proper method of treating cattle after taking them from their pastures to be fed on turnips The earlier they are put up, the sooner they will be ready for the butcher. Mr. McCombie adopts the following plan: He sows annually from twelve to sixteen acres of tares, and about the first of July, saves a proportion of the new grass full of red clover, and from the 1st to the 20th of August both tares and clover are fit for the cattle. He has for many years fed from three hundred to four hundred cattle, and but for the practice of taking them up in good time he could pay no rent at all: the animals would prove a dead loss. A week's house-feeding in August, September and October, is as good as three weeks in the dead of winter. He begins to put the cattle into the yards from the first to the middle of August, drafting the largest cattle, intended for the Christmas market. This drafting gives a great relief to the grass fields, and leaves abundance for the cattle remaining there. During the months of August, September and October, cattle do best in the yards—the byres being too hot; but when the cold weather sets in, they should be kept at the stall. They require to be carefully watched the first night, and in three days they get quite accustomed to their confinement, except in the case of some very wild beast. Feeding cattle should not be allowed unripe green tares; they must be three parts ripe before being cut. The tares should be mixed when they are sown with a third of white peas and a third of oats. When three parts ripe, they make, especially the peas, most excellent feed. The fresh clover, given along with the tares, peas, &c., forms a capital mixture.

How to Feed the Cattle. A proportion of yellow Aberdeen turnips should be sown early, to succeed the tares and clover. The soft varieties are more apt to run to seed when sown early than yellow turnips, besides making less profitable feed. In a week or ten days after the first lot of cattle is taken up from the grass, a second lot should be taken up. This is a further relief to the pasture, and the cattle left in the fields thrive better. This taking up may continue every week or ten days to the end of September. At this period all feeding cattle that are intended to be fattened during the succeeding winter, ought to be under cover. It will be of no use to attempt to feed cattle to profit without experienced men to take charge of them. Good cattlemen are invaluable. They must not only know what to give the animals, but the great secret is to know also *what not to give them*. Like everything else, it cannot be learned in a day, the cattleman must be always learning. In regard to the treatment of cattle, when put upon tares or cut clover, there is no danger; but with turnips, an ignorant man may injure the cattle in one week so much that they may not recover it during the season. The cattle must be gradually brought on, giving them few turnips at first, and increasing the quantity daily. In ten or fourteen days they may get a full supply of turnips. When improperly treated, the cattle scour and hove, and the stomach is deranged. It is a long time before they recover, and some never do well. Hove is cured generally by repeated doses of salts, sulphur and ginger. An accidental case of hove may occur under the most careful treatment; but when a lot are found blown up every day, it is time to change the keeper. Cattle, feeding in the stall, should be kept as clean as the hunter or race horse, and their beds should be as well shaken up as those of the more favoured animals. The feed of the cattle should be changed from tares and clover to Aberdeen turnips, and afterwards to swedes, if possible by the middle of October. The cattle intended for the Christmas market should have at first from 2 to 4 lbs. of cake a day by the first of November. In a week or two the quantity of cake should be increased to at least 4 lbs a day, and a feed of bruised oats or barley should be given up to the 12th or 14th of December, when they should be ready for market. The quantity of cake should be apportioned to the condition of the animals, the leanest getting the most.

Forcing only Profitable for a Limited Time.—For the first three weeks that the cattle are put upon cake along with their turnips, they will increase in flesh as much as they will do with an equal quantity of cake for the next five weeks. It is absolutely necessary to increase the quantity of cake and corn weekly to insure a steady improvement, and if cattle are forced upon cake and corn over two or three months, it will pay no one. To give fat cattle the finishing dip, cake and corn, given in moderation and with skill, for six weeks before the cattle are sent to the market, will pay the feeder. But to give cake and corn for more than two months will never pay the feeder in Aberdeenshire. This kind of food appears in time to injure the constitution; grass, turnips, and straw or hay, are the only natural and healthy materials for their food. There can be no substitute for these, except for a very limited period. Nature can only be tortured to a certain extent; and if a yearling bullock be forced, he will never attain the size that he would reach if kept on common fare. To bring a bullock to size for exhibition, give him as much grass and turnips as he can eat. Begin to force only when he is three years old, and by the time he is four years old, he will not only be a neater but a larger animal than if he had been earlier forced. Forcing in youth deteriorates the symmetry of the animal, as well as diminishes the size.

Needless Cruelty to Calves.

A letter in the *Standard* calls attention, in the following earnest manner, to a species of elaborate and most unjustifiable cruelty, perpetrated on calves previous to slaughtering:—

"There is no doubt that the Royal Society for the Prevention of Cruelty to Animals is the means of deterring many from acts of cruelty; but still there is perpetrated around us, unrestrained, enough to make one shudder; and if this is ever to be stayed it must be done by bringing public opinion to bear upon it. I wish now to call the attention of the thoughtful to a practice which our habits of luxury have introduced and fostered—the practice of bleeding calves to make the flesh white. The butchers say that they cannot sell the veal unless it is white, and yet I can scarcely think that the humane public of this Christian land willingly and wilfully uphold this wicked system. Surely those who insist upon having veal white do so in ignorance, not knowing what they do. They must be ignorant of the sad and startling fact that this is purchased at the price of protracted torture, extending over some days. To quote the words of a butcher, recently published, 'They oblige us to bleed the calves till it makes even a butcher's heart ache, on going into a calf-house, to see the poor creatures lying fainting on all sides, more than half dead, yes, for days before the day for slaughter.' English men and women, shall this continue? Will you any longer be responsible for this monstrous wrong? Surely this barbarous treatment of an inoffensive creature, to satisfy a whim of luxury, is an offence against our common Maker, and a foul crime against humanity. We have a right to the use of these creatures for our food; but we have no right whatever to torture them without a cause. In such a case as this, the public will is law; and if the public would but be satisfied with veal of its natural colour, the butchers would gladly give up this odious practice, a practice which is discreditable to our much-boasted and enlightened land."

Curious Effect of the Cattle Plague.—It is well known that, owing to the prevalence of the *Rinderpest* in England, there has been a large exportation of black cattle from Ireland into Great Britain, one remarkable effect of which has been that Irish bulls are now quite common in England. One of the most conspicuous is the title of that very popular work, "*Men of the Time*," which runs in full, "*Men of the Time:* a Biographical Dictionary of Eminent Living Characters of *Both Sexes!* (1865)." Does not this imply some of the eminent living men are no better than *old wives?*—*Farmer* (Scottish).

A Precocious Heifer.—Mr. E. Schluter, residing on Lot 29, 2nd Con. from the Bay, York Township, informs us that he has a heifer that was delivered of a healthy and full-grown bull calf when only sixteen months and fifteen days old, thus furnishing an instance of earlier fecundity than that recorded in the number of this journal for Sept. 15th, 1866, in which case the sire and dam were each about twenty months old. Mr. Schluter's heifer was calved on the 15th November, 1865. When about seven months old she was, during a short period, pastured away from home, and at that time made her way to a neighbouring field in which were two yearling bulls. She became the dam of a full-size calf on the 1st of April last. Mr. Schluter vouches for the accuracy of the age and dates.

The Dairy.

Illinois Dairymen's Convention.

The *Prairie Farmer* gives an interesting report of the dairymen's convention held at Rockford, Illinois, on the 6th of March. The greater part of the report is taken up with an excellent address delivered by Mr. King, of the most important portions of which we give a summary. Mr. King contended that dairying as a business was far more profitable, as well as less laborious and uncertain, than raising grain. His remarks applied chiefly to the circumstances of farmers in Illinois, but in many respects they will apply with equal force to Canada. He considered the prospects of dairy produce, in a commercial point of view, were very encouraging; the demand was steadily increasing, and it was only necessary to furnish a good article to secure a constant and remunerative demand. He earnestly advocated the adoption of the factory system of cheese-making, which equalized the quality of cheese and gave to the small dairies the same facilities as the largest. We particularly commend to our readers the following observations on

GOOD AND BAD BUTTER:

"Butter must be sweet and pleasant to the taste. It is a luxury, and is bought and consumed as such. A bad-tasted, unpleasant luxury is a contradiction, and of course, if butter is bad-tasted, it cannot be tolerated on the table. No matter from what source this ill savor may come, whether from over salting, from weeds in the pasture, from bad air in the cellar, from sour, rancid or decomposed milk, or dirty milk vessels, in any and every case it must be sweet, otherwise it goes for grease of some grade. It must be of uniform colour; must not be marbled or streaked in appearance. There must not be two or more colours in the same package. It must be of a good bright colour; summer-made of a full yellow shade; fall-made is not usually found in the market so yellow as summer, but to command the best price it must be yellow, if not quite so deep a yellow."

Another important matter is SALT AND SALTING. "It must have just the right quantity of salt, and of the best kind of salt. It must be salted so as to be pleasant to the taste. There is no error dairymen more frequently commit than over salting. It is the great defect of our butter. From all points where it is consumed, the universal complaint comes with every mail, 'too much salt,' 'why cannot you curtail this amount of salt?'"

Mr. King particularly recommended the Liverpool salt of the Ashton brand, respecting which he observed that "the Ashton salt is free from lime, and it contains no impurities that change the nature of the butter; consequently, there being nothing in it that can injure, it improves the flavour, being itself the finest flavoured salt in the market. But the salt ordinarily used here is full of impurities, and a package of butter salted with it in June, will generally come out in October, 'soapy' and 'fishy.' The coarse barrel salt to be found at all the stores is very objectionable. By dissolving a little in a tumbler of clean water, you can readily see a deposit of lime at the bottom of the glass. The fine dairy salt is but little better; it is not quite so full of grit; and the crystals dissolve better, but it is just as full of lime. Lime is a powerful alkali, and is used in making soap. It decomposes all greasy substances, therefore it changes the condition of your butter. A keg of fine June-made butter, salted with limy salt, kept in a pure cool cellar, when taken out and tried in October, will never be fine-flavoured, high-toned butter. The presence of lime in the mass during a period of three or four months will have changed the original character of the butter, and it will be found of inferior quality. Besides all this, there is no salt amalgamates with butter, and so thoroughly pervades the whole mass, as the Ashton. You can salt butter highly with it if desired, still it all melts and dissolves, and your butter may be highly seasoned and yet not gritty, or unpleasant to the taste. But I wish you always to remember that enough, even of the best, is better than too much, and that if makers persist in using too much salt, all our exertions to enhance and improve this dairy product will be in vain."

The quantity of inferior butter in the market during the past season had been unusually large. "Had it been of as fine quality as usual, or in other words, had it been cured with Ashton salt as usual, shippers would have taken much of it out of our markets long

ago, and the prices of butter would be remunerative to all concerned; as the case now stands it will be taken for bakers' use, or for grease to slush masts in foreign ship-yards, or to smear sheep in shearing time. If of a better grade to supply bakers' wants, such grades always have to go off at low prices. Slush grease is always cheap, and bakers' shortening is regulated by the price of lard, which they prefer. I wish to be impressive on this subject. I have opportunities of knowing more of how the market price of your product is depressed for want of attention to it than any person can who is not in the trade. I would that you could all see the subject as I do, and I have dwelt upon it because I feel satisfied that if this convention shall be the means of correcting our defects in this one particular, we shall all be largely and liberally repaid for our attendance here.

When the merchant tries butter with the auger or butter tryer, he can at once determine the quality of the whole package. His tryer goes to the bottom, and comes out full of butter. If it has been well-made, not over-worked, and the natural grain of the butter preserved in making, it comes out in the tryer firm. The instrument indicates a crisp, short cut, free from stickiness, and not 'salvy,' the back of the tryer is clean and bright generally, showing a sprinkling of clear, glistening drops of pickle, like dew. The colour and uniformity of the package is at once discovered. The senses of taste and smell are then called into action; if both are gratified by the examination, the goods are approved.

"On the contrary, when the butter is badly made—when any of the many things which must be attended to in order to have good butter has been neglected—the tryer shows a very different result. It comes from the butter drawing with it a ropy, sticky substance, the back of the tryer, as well as the barrel, covered with it, having no consistency or grain, disagreeable to look at, and abominable to taste; or it may be spongy and porous, full of sour milk, which grows every day sourer; or, as we often find a package, part of it may be crisp and solid, with here and there a light-coloured, spongy layer. Such a showing with the tryer, of course, marks the package as inferior, and places it in a grease category.

"In order to secure good butter, the room where the milk is kept must have a cool, pure atmosphere. Much of the inferior butter is made so by not paying attention to this point; and even when this is well seen to, a large quantity of butter is spoiled by placing it in damp and impure cellars. Farmers who make any butter for market must not expect to get good prices if they have not good milk rooms and cellars. A mere trench dug in the damp soil and covered with a roof of boards, exposed to the sun and weather, is not a cellar suitable to keep milk and butter in; and those who are not prepared with suitable places should not attempt to make butter for market. The best care you can give, the best salt you can use, will not compensate for neglect of good cellerage.

"COOPERAGE.—Cooperage is another very important matter so important, that the best butter we can produce, with the closest attention to all the points we have been examining, may be depreciated several cents by packing it in vessels made of timber which will impart an unnatural flavour or discolour the butter. No particle of pine or cedar wood should be allowed. It is now universally established in the trade that white oak is the purest, strongest and best timber from which to manufacture butter packages. Before packing butter in tubs or firkins, they should be filled with pickle for a few days, which extracts the colour from the wood which would otherwise stain the butter, and also neutralizes the acid of the oak."

Mr. King concluded his admirable address by animadverting upon a very objectionable practice not unknown, we are sorry to say, on this side the border. He observed:—"One injurious practice we must not pass over unmentioned. It has been a great trouble to grocers and butter-dealers lately, and prevails most in dull markets, that is, the one of taking up the butter from firkins and making it over into rolls, to be palmed off for fresh butter at the stores. Sales are seldom effected in this way unless the butter has been very good. Sometimes the dairymen succeed in making a sale of such butter; but in nearly all such cases the dealer is deceived, and finds it out to his loss; but the farmer is so seldom remunerated (and when he is it is at the expense of his friend the merchant) that the practice is a large loss to him. If the butter is good, has been well made, and kept well, it is in the best shape possible in the original package, and will be greatly injured by taking it out and working it over into rolls; if it is poor, it will only be made worse by further manipulation.

"If those who have not facilities for keeping their milk from freezing, and who make butter in winter as white as the snow, could be induced to give up trying to make butter at this season, it would greatly benefit the butter trade of this section, and enhance the value of really good rolls. As I have said, this winter butter is sent to market and sold immediately; each roll is wrapped in a pure white cloth, washed in pickle; now the white rolls go into the same barrel, and their presence there cheapens the whole. Of course, dealers do not like to take this snow-white grease—for we can scarcely dignify it with the name of butter—and it is hawked about for sale from store to store, until at last it finds some resting place. Winter butter should, at least, have a good deep cream colour—a good grain and be sweet."

Some discussion on various dairy topics followed the delivery of Mr. King's address, but nothing particularly novel was elicited. With regard to milking, all were agreed upon the importance of patience, gentleness, regularity, and the most scrupulous cleanliness. In regard to churning, a too quick performance of the process was condemned. Butter, it was said, could not be of first quality if churned in less than twenty minutes. The great importance of thoroughly extracting the buttermilk was admitted on all hands, but some difference of opinion existed as to the propriety of washing the butter; some contending that separating the buttermilk by working with the hand was the better practice. on the whole, however, the majority decided that washing with pure soft water with the dasher in the churn, and handling as little as possible, was the safer and more advisable method.

How to Prepare Milk for the Factory.

A CORRESPONDENT sends the following to the *Utica Herald*:

Pails, cans, and everything with which milk comes in contact, should be thoroughly washed, scalded and aired, if not sunned, once every twenty-four hours. At night, in warm weather, these things should be well rinsed with cold water. Those who milk in stables, should keep their cows clean and well littered, and refrain from feeding green corn fodder in the stable, as the practice produces a great deal of filth, and it is impossible to keep the taint from the milk. All dirt should be rubbed off from the cow's bag before beginning to milk, and the greatest care should be taken to keep dirt from dropping into the pail. The can should be set in a cool place, most especially out of the sun, and the top kept uncovered till the last moment before starting for the factory. The milk should be strained into the can as fast as taken from the cows. For this purpose a strainer pail is best, as a cloth strainer covers the top of the can too closely, preventing cooling, and the washing and scalding of it is apt to be neglected. The pail is easily cleansed, is nearly as handy, and if the strainer gets filled up with dirt, (there ought not to be dirt enough in the milk to do this), it can readily be rinsed with cold water. Frequently stirring up the milk in the can with a long-handled dipper, while milking, is beneficial. *Tin pails* are better than wooden pails, as the latter are much harder to keep clean and sweet. Newly painted pails are quite bad, the milk absorbing a taint from the paint. Wooden pails with a round-bottomed tin lining are much the best, and are growing rapidly in favor in the oldest and best dairy districts. In short, the most scrupulous cleanliness should be observed throughout, not only care being taken to clean the utensils, but to use such as are easily cleaned; for, without greater cleanliness, we can never rival the nice flavor of the best grades of English cheese. Bad flavor is the great objection brought against American cheese, and it is the verdict of the best judges that this is mainly due to the filthy condition of the milk when it reaches the factory. What American dairyman will not have his national pride aroused at the thought of taking two or three cents a pound less for his cheese because of his dirty habits in milking? Let our farmers see to this, and give us clean, sweet milk, and we can beat the world in quality and price. Even with his "old fogy" processes of manufacture, John Bull rivals us *by virtue of his cleanliness*. Let us adopt that virtue, and we can far excel him in the world's market.

Poetry.

Where spades grow bright, and idle swords grow dull;
Where jails are empty, and where barns are full;
Where church paths are with frequent feet outworn,
Low courtyards weedy, silent and forlorn;
Where doctors foot it, and where farmers ride;
Where age abounds, and youth is multiplied;
Where these signs are, they clearly indicate
A happy people and well-governed state.

Veterinary Department.

Disease of the Liver in Sheep.

A "SUBSCRIBER," who writes from Dundas, sends us the following:—

SIR,—Would you give me your opinion regarding a disease which has affected some of my sheep? The first sheep was taken ill in February last. The sheep refuse to eat, breathe very heavily, grind their teeth, and their breath smells of rotten eggs.

I gave to the first affected a dose of soap-suds, epsom salts and soot. She got better; three weeks after another young ewe became sick; I treated her similarly, and she died.

The another became sick in the following week; and I gave her a dose of epsom salts, aloes and ginger, and subsequently gave oatmeal gruel. I also cut her ears, and she got better. In about a week after, another was similarly affected; I had no epsom salts, and I gave her a dose of common salt and aloes, and cut her ears, and she died. I may mention that in the fatal cases the sheep died very suddenly, and those that recovered, did so very slowly. They were all far gone with lamb, and all in good order. I opened the last one, and found two yellow spots, about the size of a penny piece, on the liver, and also on the gut-tallow near the liver. The spots were the colour of sulphur, and the lungs were blotched, with black spots on them.

There was no constipation of the bowels. I opened the head, but found no trace of any grub. The dung passed by the sheep during recovery was soft, glossy, and very light-coloured.

I have wintered my sheep on good pea-straw, with an occasional feed of grain, timothy hay, and roots I removed the sick sheep from the rest.

ANS.—It is rather a difficult matter to give a perfectly correct opinion regarding the complaint which has proved so fatal to some of your sheep, but judging from the symptoms described, it appears to us to be an affection of the liver in the early stage, and perhaps from changes in the state of the temperature, or from impure air, the lungs have also become diseased. The epsom salts and ginger which you have administered were no doubt of service; but we really cannot see what use there is in cutting the ears; such treatment is certainly as uncalled for as it is absurd.

Diseases of the liver are generally most common after wet seasons, and are also produced in sheep that have been grazing for a considerable time on low, wet land. In the treatment of your sheep we would advise you to attend to their general comfort, by placing them where they have plenty of pure air, and also to give a change of food occasionally; and be sure to allow a moderate supply of hay of the best quality You might also give a saline purge, consisting of epsom salts two ounces, nitrous ether half an ounce, and about two drachms of ginger, to be given in a pint of water. If the patient becomes weak, the strength should be supported by gruel, and an occasional dose of nitrous ether.

HYDROPHOBIA IN A HORSE.—The *Prairie Farmer* mentions a case of hydrophobia in a horse belonging to the City Railway Company in Chicago. The horse had been bitten by a mad dog, three weeks prior to the appearance of the fatal disease.

COWS CLEANSING AFTER CALVING.—John Elliott writes—"There is in this season of the year a great deal of trouble and loss to many of our farmers by cows not *cleaning* after calving. I wish to know through THE FARMER if there is either a preventative or remedy for this trouble."

ANS.—It is not an unusual occurrence amongst cows for the cleansing, or after birth, to remain a considerable time after calving. Its removal is generally expedited by giving a small dose of opening medicine, as epsom salts eight ounces, ginger four drachms. If it remains over eight or ten days after calving it may prove injurious, and in some cases it is necessary to remove it by the hand.

White Willow Again.

To the Editor of The Canada Farmer.

Sir,—Seeing an article relative to the "White Willow" in your number for the 1st March, it reminded me of my desire to correspond with you on that subject.

Two years since, I purchased 600 cuttings of the far-famed white willow. Receiving no instructions concerning their management, I planted them according to my own judgment, and awaited the result with interest. I was soon gratified by seeing them (nearly all) sprout, and grow rapidly, some of them before the autumn attaining to the height of 3½ feet. Their appearance now was encouraging, and my expectations rose accordingly. The following season they grew spontaneously; most ridiculously so, indeed. The harvest passed, the summer ended, and my hopes of the expected hedge are well-nigh prostrate. That I can make a serviceable fence of it with careful training, I do not doubt; but, unless in future years they acquire a tendency to grow more straight, I fear their ungainly appearance would ill compare with the willow fences I once saw in Illinois.

You may ask do they not possess a leading limb? I may say, yes; they have leading limbs directed to every point of the compass. The leading limb of the preceding year is much the strongest, but swerved to one side in a manner very ungraceful; while young shoots spring vigorously from the base of the trunk, and seem destined to become leaders also. The bark is shaded with red, and the leaf appears the same as those of Illinois, the only marked difference being in the unshapely form. Now, from the description given, can you inform me whether mine is the real white willow, the genuine *Salix Alba* of the botanist or not, or have I been duped by the vendor of some spurious article?

Note by Ed. C. F.—We really cannot decide the questions asked by our correspondent, respecting the variety of willow grown by him. The fences we saw in Illinois tended almost wholly to the distinct tree shape, and not at all to the stool habit he describes. From his account, the willows in question seem to have grown very much after the style of the basket willow, (*Salix purpurea*), but there are so many species of willow that his description is not minute enough for us to express a decided opinion as to what kind has fallen into his hands.

A Manure Experiment.

To the Editor of The Canada Farmer:

Sir,—The subject of manures and the merits of different kinds being frequently discussed through your valuable paper, I take the liberty of giving you the result of an experiment made by me last season on a field of turnips for the purpose of testing the qualities of different manures; a part of the field getting no manure of any kind. All the manures were put in the drill and ploughed under, and the various lots were sown about the same time, and received the same treatment through the summer. When taken up, a quarter of an acre of each lot was staked off and carefully measured, giving the following results. If taken by weight, the yield in each case would have been much greater:

Lot without manure of any kind produced at the rate of	360 bush.	per acre.
" with 600 lbs. bone dust per acre, cost $7 50	534	" "
" " 12 loads barn yard manure per acre	550	"
" " 350 lbs. super-phosphate of lime per acre, cost including frt., $7 50	625	" "
" " 220 lbs. super-phosphate, 67 loads of manure per acre	635	" "

The super-phosphate was purchased by me from P. R. Lamb & Co., Toronto; the bone dust was procured in Guelph. As to whether it will pay to purchase these manures, I will leave your readers to draw their own conclusions. W.W.

Guelph, March 22, 1867.

Cheese Factories Wanted.

To the Editor of The Canada Farmer:

Sir,—The question agitating the minds of many of our Canadian farmers now is, "How shall we make the most of our cows?" This question has, no doubt, often been asked before, but the low price of butter this last season, as compared with the two former, has given it an interest which it did not before possess. To the minds of individual farmers here and there, who rely on the truthfulness of the accounts contained in The Canada Farmer respecting the profits to be derived from cows in the neighbourhood of cheese factories, the answer to the question is easy. But how to get near the cheese factory is the difficulty. You would think farmers might reverse the decision of Mahomet with regard to the mountain, and if they cannot go to the cheese factory, bring the cheese factory to them. You would think that farmers might themselves establish factories in favourable localities. This is what would be done in thousands of instances, only that farmers of capital and enterprise are so few and so far between. They will be all quite willing to send their milk to the factory, provided they get a high enough price for it, and payment in hand. To pay out cash, however, for the erection of a factory and to meet expenses connected with the working of it for a season, and in addition to have to wait until the cheese goes to market before receiving any return, is quite another matter.

A few of our more intelligent farmers of the township see the great advantage to themselves and others which would arise had they facilities on a large scale for making cheese. In consequence, however, of the smallness of their number, their inexperience, and want of spirit or confidence in each other, they are not likely, even with these facilities, to provide factories themselves. How foolish is this lack of energy, if what you have published in your columns, regarding the profits arising from cheese-making be even an approach to the truth. If 300 lbs. of cheese per cow can be made from cows in Oxford, and this cheese sold for 12½ cents per pound, then the profits of cow-keeping in many localities have yet to begin.

There are two or three points in this township, at each of which, taken as a centre, with a radius of between two or three miles, the milk of about 400 cows could be obtained for the support of a factory. The township itself is one of the best, not only in Central but in Western Canada, for agricultural purposes. From this, I suppose, it may be fairly inferred that the cows are tolerable milkers, if there be any truth in the old adage that "the cow gives milk by the mouth."

Could you not, Mr. Editor, induce some two or three capitalists to come and establish themselves among us as manufacturers of cheese? Our township is the second from the River St. Lawrence, lying in the County of Dundas. West Winchester, the best of the "centres" to which I have referred, is seventeen miles from the G. T. railway station at Morrisburgh. Building material of every kind can be obtained on the spot, or at a distance of between two or three miles. Mechanics of all kinds can also be easily obtained. We greatly want a cheese factory, and we have everything necessary towards it but the man with the money.

WILLIAM BENNETT.

West Winchester, March 14th, 1867.

Machine for Fencing.—P. W. Thompson, of Montreal, writes as follows:—

"I have been directed to you in reference to a machine for fencing, and would feel obliged if you would kindly give me the necessary information. There was one, I am told, at the Provincial Exhibition—cost about $40—whose work would keep four men employed putting up. The machine should bore, point and saw. You will be good enough to favor me with the maker's name of this, or any subsequent invention which you may consider an improvement."

Ans.—We are unable to supply the desired information, and publish the above, as the likliest means of drawing out any information on the subject which may happen to be in the possession of others.

Wheat vs. Barley.

To the Editor of The Canada Farmer:

Sir,—The time is near at hand when the seeding operations of the farmers will have to be commenced in this Province. The great staples of the country, wheat and barley, will have a due amount of attention paid them this spring. It is very important with the husbandman to determine which is the most remunerative crop, and which the most suitable to this soil; but there are some extraneous considerations to be taken into account with reference to the raising of barley, which it is well not to lose sight of. In my humble opinion the barley business has been quite overdone in this country.

It was quite natural, when we had free access to the American market with barley, and that grain was worth nearly as much as wheat, that farmers should grow it quite freely; but there has been a change in the relative circumstances since; a heavy duty now awaits its advent across the lines, and wheat this season has doubled its former price.

It appears to me that if we lessen the amount of land sown to barley about fifty per cent., the crop will pay us much better in proportion. It was expected that barley could be sent to England with paying results, after the close of the treaty, but I see by the quotations of Liverpool markets that barley is only 4s. 6d. there. Fifty or sixty cents per bushel might permit of its being sent there, but those prices offer but little inducements for growing the article here. There is no doubt but that the large production of barley in this Province heretofore has been attended with excellent results, having been quite profitable, and besides decidedly beneficial as a change from the over-cropping wheat system followed. This will enable us, stimulated by the splendid price of the latter, to sow pretty heavily this spring of this magnificent cereal, for the production of which this Province is so well adapted.

I am not able to speak of the gold drop variety of spring wheat, from personal knowledge, but I hear an excellent account of it as being a good produce on light soils. Moreover, it will come in the fall market nearly as early as fall wheat; and when the chances like the present are highly favourable for the early fall market, the inducement to sow this kind becomes much stronger.

It is gratifying to observe that the midge evil is gradually lessening, and it is to be hoped will eventually subside. If so, we shall be able to go back to early sowing as formerly, which will increase our chances of a crop at least twenty per cent. But we must not be over sanguine on this point; still there are many reasons why we should raise, this year, more wheat and less barley.

L. HARRIS.

Hope, April 2nd 1867.

Honey Locust for Hedges.

To the Editor of The Canada Farmer:

Sir,—As wood fences are becoming more expensive every year, I have determined on finding a substitute for them. With the little knowledge I have of live fences, I have made up my mind that the Honey or Hedge Locust is just the thing for this climate. The Osage Orange will not stand our severe winters, and it is a slow grower. The Buckthorn makes an efficient fence, but from my experience, it will take from seven to ten years to grow a fence, and the mice are very fond of it, while the locust is very hardy, and a thrifty grower. It grows with a tap root, and never sends up suckers.

Having commenced the cultivation of the Locust, both for sale and fencing, I will try to give you my manner of cultivation. In setting the plants for a fence it is necessary to ridge up the ground in the autumn, especially on clay soils, so that the action of the frost will mellow it.

I plough eight furrows together, so that it will give room to work with a horse, and set the plants with a dibble, ten inches apart, and mulch with short manure, which is all the manuring they will require. Cultivate three or four times through the summer, and keep the weeds down with the hoe. The second year they should be cut three inches from the ground, which will cause them to send up two, three or four shoots each; after which it is only necessary to keep them of a uniform size. With strong two-year plants, and good cultivation, a hedge can be grown in five years that will turn any ordinary animal.

FARMER.

Rotation of Crops.

To the Editor of THE CANADA FARMER:

SIR, Next year I intend to commence a system of rotation. There is not a farm, I believe, in the county under a system of rotation; so I am somewhat at conjecture to know what plan to adopt that would be most profitable under our circumstances.

The soil was once a good, rolling, dry clay soil, but like most of our Elgin farms, is now rather the worse for wear. The location from market is five miles from St. Thomas, a market for grain, and stock only. I should like to adopt a plan that will pay, and at the same time improve the land. I don't believe in sowing and reaping the same quantity, as is often the case, especially with fall wheat. I have been thinking of the following plan, which I will submit to your consideration. Divide the farm into six fields of equal size. The crops to be—one field clover, two pasture, one corn and roots, one peas, and one fall wheat. The crops to succeed each other in order as above. Manure one field every year, say wheat, with well rotted compost, harrowed in when sown. M. O. COLE.

East Elgin, March 22, 1867.

NOTE BY ED. CANADA FARMER.—We think the above a very good order of rotation, provided the ground is left thoroughly clean after the roots, in which case the peas would shade the ground well and not allow the land to become foul before the wheat was put in. Instead of manuring for wheat, we should manure thoroughly for the root crop; and in worn-out lands should prefer to let the fields remain in pasture three years, if the yield of grass was sufficient to feed a fair proportion of stock.

DURHAM BULL WANTED.—Donald Cambell, of Osgood, wishes to purchase a two or three year old thorough bred Durham bull, and would be glad to learn through the CANADA FARMER of any parties having such an animal to dispose of.

AYRSHIRE BULL WANTED.—"Duncan Kennedy," Vernon P.O., wishes to know where he could procure a two-year old or three-year old Ayrshire bull, and at what price. Parties having stock of this kind to dispose of can let it be known through the columns of THE CANADA FARMER.

AYRSHIRES WANTED.—"A. B. T.," Detroit, asks:—"Can you direct me to parties having pure blood Ayrshires, who will sell young stock at reasonable prices?"

ANS.—By reference to the prize list of the Provincial Exhibition of last year we find the following parties exhibited and obtained premiums for Ayrshire cattle:—W. Wheeler, Scarborough; P. R. Wright, Cobourg; Geo. Crawford, Brockville; Thos. Thompson & Co., Williamsburg; Thos. and Robert Guy, Oshawa; W. Weld, Delaware; E. Fawcett, Scarborough; James Laurie, Scarborough; and J. R. Torrence, Scarborough.

INFORMATION WANTED RESPECTING SPRING FAIRS.—A subscriber sends us the very sensible suggestion that Agricultural Societies should notify through our columns the time and place of holding the spring shows. Several societies have already done so; but there are others of which we have received no intimation.

TUMOUR ON A HORSE'S KNEE.—John Waldon wishes to know what will remove a lump from a horse's knee, in a case for which he has ineffectually tried a great variety of remedies; but as he has not stated explicitly the nature of the enlargement, nor the length of time it has existed, we are unable to prescribe correctly; however, we would recommend the application of a cooling lotion, acetate of lead one ounce, dissolved in one pint of water; apply about a wine-glass full of the lotion three times a day; and in a week or ten days blister the part with any mild blistering ointment.

SEED WHEAT.—Mr. W. Boulter, of Demorestville, has sent us the following:—Sir—Seeing an account of some wheat grown by Giles Membery, of Adolphustown, called the Platt midge-proof wheat, I took the trouble of getting a little and examined it. My reason for so doing is, I have been growing a kind of wheat known as the amber wheat, or called by some the barley wheat, from the resemblance to that grain when growing. I send you a sample of it by parcel post. The sample of the Platt midge-proof wheat that I have resembles it exactly, and from the account I received, it would appear that the growth and formation of the head resembles mine as nearly as possible. My wheat produced me over forty bushels to the acre, weighing sixty-four pounds to the bushel. One of my neighbours, Mr. A. Sprague, of Demorestville, raised from one-third of an acre by measurement, twenty-seven and a half bushels of good clean wheat, all sold at two dollars per bushel. I would further state that it requires about one bushel per acre for seed where the ground has been properly prepared.

NOTE BY ED. C. F.—The sample of the wheat which we received from Mr. Boulter was remarkably fine, the grains large and even, and a bushel of such would no doubt come up to the weight above specified. By reference to our advertising columns it will be seen that our correspondent has a small quantity of this wheat for disposal.

HYDRAULIC RAM.—"J. P. Muir," of Grimsby, asks: "What amount of fall is required to work a Hydraulic Ram that will force a stream of water ten feet high one inch in diameter? Where are such articles made, and what is the probable price? The stream I intend to use has an abundance of water but very little fall."

ANS.—Full information about the Hydraulic Ram will be found in THE CANADA FARMER for Sept. 1, 1865. Each foot of fall is calculated to give ten feet of an elevation in the delivery, but we doubt if this will hold good if there be only a single foot of fall. It is desirable to have the feed-pipe as long as possible, to give good force to the flow. From twenty to twenty-five feet at least should be allowed. Messrs. Rice Lewis & Son, of this city, can supply rams of any size. One with an inch discharge-pipe will cost $24, but in all probability a smaller size would do. If we knew the purpose to be served we could advise better. A half-inch discharge-pipe will supply a large body of water, and that size only costs from $9 to $12.

The Canada Farmer.

TORONTO, UPPER CANADA, APRIL 15, 1867.

Renting Farms.

THERE is something in the ownership of land that has for most men an irresistible charm. Many will cheerfully submit, year after year, to a host of privations, in order that they may lay by enough at length to purchase the house and small plot of land on which they live; and to be the proprietor of broad acres, of a goodly farm, seems in their estimation quite to raise a man in social rank and dignity. Especially is this the case with those whose early associations have all been formed in the old country; and for this it is not difficult to account. In England the land is owned by a small proportion of the teeming population; and to be a proprietor of even a few acres is really a distinction, if not an honour. For the most part, the aristocracy are the land owners. It is no wonder, therefore, that the pleasing prospect of becoming the proprietor of a hundred acres, or it may be double that number, or more, with all the rights and privileges of an independent landlord—it is no wonder that this prospect should have its share in the motives which have induced not a few to leave their fatherland and seek a home in these wide, unoccupied, rich and inviting territories. The feeling is natural, and not reprehensible. There is a pleasure in calling a homestead, at least, one's own; and there is an additional interest and stimulus in cultivating the soil which is one's own property, and may be left to one's children. But unquestionably many persons attach too much importance to this matter; and not a few have experienced a sad disenchantment in regard to the bright pictures they once formed of rural life and the dignity of proprietorship. This natural feeling is by no means confined to the emigrant from older countries. Among those who have been born in this country, who have perhaps been reared on a farm, and who are not apt to form exorbitant expectations of either the profits or the pleasures of farm life, there is a strong desire to be the owner of the land they cultivate. Nor is the desire to be discouraged. On the contrary, it should be the aim of every one who has chosen agriculture for his calling, to become the owner of his own farm. But does not the eagerness and haste of the young beginner often defeat the object in view? Has not many a farm become heavily mortgaged, and at last changed hands, which by a more prudent and patient course at the outset might have remained an unencumbered estate in the hands that had industriously tilled the fields from year to year? There is need of much caution, we think, both with the native Canadian, and with the emigrant from other shores, before they take the important step of purchasing land. To the latter especially, we would say, do not be in a hurry to buy. Learn by experience. No matter how plentiful money may happen to be; depend upon it you will spend it to better advantage by waiting till a longer acquaintance with the country shall have taught you the real value of things. Don't be tempted by a great bargain, you will find them "plentiful as blackberries," and a year or two hence, you will be in a much better position to judge of the merits of the case than you can possibly be now. To all newly arrived emigrants who contemplate the purchase of land, we recommend the safer plan of renting a farm in the first place. This will give them the requisite experience, and enable them to judge of the prospect of success they have in this calling; as well as teach them the real value of land. Those who are most inexperienced are just the parties most likely to be tempted to a premature purchase; and they are the very parties with whom it is most incumbent to wait and learn, before they part with their money. The young Canadian, also, who is just starting out in life for himself, will often do well to rent a farm for a few years, in preference to buying one. If he has capital enough to pay for the farm, with a surplus to stock it, and to purchase the necessary implements, and maintain the expenses of his household until the first returns of his labour come in, then, indeed, by all means, let him select a good farm, the value of which no one can better estimate than he, and let him make it his own. But how many purchase a farm under these conditions? A more common case is to pay down a small portion of the purchase money, to run into debt for even this, and then to find the funds at command quite inadequate for the purchase of good horses to work, good stock to rear, or good implements to use. Fresh debts are incurred; the habit of borrowing is acquired; the want of capital is felt at every turn; poor crops are raised, and sold at a disadvantage, on the pressure of some immediate demand for money; the interest on the unpaid price of the land is in reality a heavy rental; while the money sunk in its part-purchase is just what was needed to have given a fair start in the first outlay which the farm required. To show that tenant farming may be made to pay, let it be remembered that in England nearly all the farmers rent their land; very few are the owners; yet nowhere are farms in better order, or on the whole more profitable. When a rented farm does not pay the tenant, there must either be mismanagement on his part, or the rent must be too high. In some cases, we believe, the rents asked for farms in the neighbourhood of cities are disproportionately high. The lands in such localities are, perhaps, also unusually exhausted, by previous cropping without manuring. We do not think a farm near a city is worth very much per acre more in the way of rent, than another that is equally near a railway station. The difference in the price of produce is not enough in these cases to justify the difference of one or two dollars an acre in the rent. Sometimes, also, landlords, or the agents of absentee landlords, may be unreasonable in withholding the

necessary outlay in the way of accommodation, fencing, draining, &c. But the fault is not always with the land or the landlord. We believe it is easier to find good farms, and good landlords, than good tenants. Many a man who would gladly keep his land, and let it at a moderate rent, could he secure proper attention and fair dealing, is constrained to get rid of the farm altogether, rather than allow it to deteriorate in the hands of a negligent tenant. One great cause of the unsatisfactory relations between the proprietor and the occupier of land in this country, is the custom of letting farms by the year, instead of on a lease of several years. With only a yearly tenure, the man who works the land is not careful to provide for its future productiveness. He must make, as he thinks, the most of the one season. He is tempted to give a higher rent, for the single year, than the condition and capabilites of the land would justify. He gets all he can out of the land, and returns as little in the state of manure as possible. This state of things operates unfavourably in regard to both parties. With a longer lease, the tenant would feel more interest in the place, bestow more care, and look further ahead in all his operations, while the landlord could afford to take a lower rent, and would be more ready to lay out money in improvements, if he saw that a good use was to be made of them, and that the system of management adopted enriched, instead of impoverishing, the soil. Landlord and tenant will both be induced to invest more in the land, and as a consequence, reap a larger return. The spare capital which a tenant uses for his farm, is put out to interest, and will greatly add to his profits. By patient industry and a wise economy, the farmer will secure a yearly surplus, and in time be able to purchase a farm without the drawback of a heavy mortgage and insufficient capital to carry on his business to advantage. There will be seasons, under the very best management, when from unpropitious weather or other unavoidable causes, it will be a hard matter to raise the rent. In such cases, we think, the landlord should be willing to share the loss, and with a faithful tenant he is much more likely to do so, than with one whose negligence or mismanagement have helped to make the land unproductive.

Keep Beforehand.

Some men are always behindhand; in a few instances from sheer indolence, but in a much larger number of cases from mismanagement and want of forethought; and such men seem ever the most worried, driven, and hard-pressed in the ineffectual struggle to overtake their work. Rest and leisure they have none; the retrospect of the past shows a long arrear of tasks unperformed, and the future is crowded with a hopeless accumulation of work to be done, with time too short and means inadequate to the performance. Other men, in precisely similar circumstances, get through a vast amount of work with apparently the greatest ease, never seeming hurried or overtasked, and while every operation in their business is duly completed in season, finding occasional leisure for enjoyment, and even recreation. With the latter class, life and labour are a pleasure; with the former, both are an unmitigated worry The difference in the two lies, often, not in ability or industry, but in forethought and management. This is frequently very strikingly exemplified among farmers. One man, with no greater amount of means or help at his disposal, will all along be before his neighbour. One will be almost reaping while the other is still sowing.

To the veteran farmer, who is thoroughly up to all the requirements of his calling, any suggestions we can offer on this head will be quite superfluous; but there are young and inexperienced adventurers in the business, to whom a few hints may be useful. One of the most important matters to attend to is having everything in readiness beforehand. Fences, for example, should be in complete repair and in a thoroughly efficient state before the spring work begins. The delay of a day or two during seed time, occasioned by the necessity of putting up or repairing fences, may make just the difference between a good and a poor crop, to say nothing of the hindrance and the damage that is frequently caused in a very short time by breachy stock, and which a proper attention to the fences would have prevented. The prudent farmer will also see that all his implements are in an efficient state *before* they are wanted. It is only the careless and improvident who have to lose precious time when every hour is of consequence, in taking ploughs, harrows, drills, and other implements to the blacksmith for putting in order and repair, just when there is pressing need for diligently using them.

The timely selection and preparation of seed is another matter that should be looked to in good season, and not deferred until the period for sowing has arrived. It not unfrequently happens, that while one farmer is committing his well cleaned and carefully selected seed to the thoroughly prepared soil, another is scouring the country in search of grain to sow; and in consequence of his improvidence, is perhaps obliged to make shift with a very inferior quality of seed, which he is in too great a hurry even to run through the fanning mill.

There is another item of forethought which saves many a precious hour during the busy season, and that is, to have the wood pile and other household wants provided for beforehand, during the period of comparative leisure. Those who neglect this precaution will often have to allow a man to spend time in cutting wood when he ought either to be busy in the field or taking his needed rest after a hard day's toil; or perhaps a woman is obliged, after all, to engage in the unaccustomed and unsuitable task of plying the axe and the saw to furnish the indispensable fuel. Forethought in the same direction will provide a kitchen garden, and see that it is conveniently arranged and adequately supplied. The same considerate spirit will make such arrangements as shall prevent the necessity of women having to trudge through wet grass, and it may be in pouring rain, to hunt up the cows and milk them daily in some distant pasture Cows, like other animals, are creatures of habit, and can with a very little trouble be trained to come home at stated times, and suitable conveniences and shelter can easily be provided for them and for the milkers.

Besides these miscellaneous details, and many others that might be mentioned, there is a general forethought which every prudent farmer will take, so as to have a plan in his mind beforehand as to the course to be adopted for each season. He will then be able to calculate and provide himself in good time with the needful help. The neighbour's reaper or mowing machine, if he have not one of his own, will be early bespoken; the thrashing machine will be on hand when it is wanted, and many a vexatious delay and disappointment avoided which those are constantly incurring who drive things off to the last. In this general plan, the farmer who has been taught by experience will arrange the sowing and planting of the various crops so that they shall ripen consecutively, and not crowd upon him all at once, to his great perplexity and inevitable loss. His root crops will have been duly cultivated and cleaned before the haying comes on; this will be completed before the earlier grain fields are ready for the reaper; and these will succeed each other with intervals sufficient to allow of the harvesting of each in its right season. No field of precious grain will be left standing so long as to be dead ripe before cutting, when every operation of harvesting and hauling off the field will scatter and waste a large proportion of the crop.

This habit of forethought and previous planning will thus take in the whole season, as well as arrange in due course the work of each week and each day. It is, however, quite possible to plan too much, and to be thrown into as much confusion by this error as by not planning at all. Some men will not be taught by experience, and are constantly over-estimating their own abilities and the amount of work to be expected from other men. In their plans no allowance is made for wet days and other unavoidable hindrances, and such men are always hurrying and pushing work through, and taxing the endurance and the patience of everyone in their employ. There is a latin proverb which these men would do well to learn and apply—hurry slowly—make speed deliberately—and by not planning or attempting too much they would accomplish much more, to their own immeasureable relief, and the comfort of all about them. The farmer's life is a laborious one, though not without a host of pleasures and mitigations which alleviate and reward his toil; and there are few qualities of mind which will contribute so much to lessen his labour, increase his profits, and secure him needful leisure and rest, as the exercise of forethought and the practice of being beforehand and prepared for all his work.

Whitchurch Agricultural Society Root Competition.

The Secretary of the Whitchurch Agricultural Society has sent us a report, from which we make a brief extract, of root crop field culture in connection with the association. The competition included Swede and white turnips, mangolds, and carrots. For the first named three prizes were awarded, the first to Charles Brodie, the second to Frank Smith, and the third to Philip Macklem. The quantity raised were, by Mr. Brodie, 960 bushels per acre on five acres, by Mr. Smith, 681 bushels per acre on two acres, and 672 bushels per acre on two acres by Mr. Macklem. One prize was given for white turnips to F. Smith, who raised 701 bushels per acre on a quarter acre. One prize was also given for mangolds to Joel Baker, who had the splendid yield of 1,113 bushels per acre on half an acre. Three prizes were awarded for carrots, the first to Joel Baker, for 1,018 bushels per acre on half an acre, the second to John Jameson, for 1,015 bushels per acre on half an acre, and the third to Jonathan Baker, for 893 bushels per acre on a quarter of an acre. The yield was calculated by weight, sixty pounds to the bushel. The manure used in all cases was barn-yard manure. The larger crops were all sown early, had the largest amount of labour bestowed on them, and in most cases received the heaviest manuring. The premium crop of carrots was in this last respect an exception, having received, according to the report, the least manure of any. From the results of the various experiments the judges expressed the opinion that no roots should be nearer than eighteen inches between the rows, a distance sufficient to allow a horse-hoe to till the crop. Turnips should not be less than twenty-four inches between the rows, nor less than twelve inches apart in the drill. The Judges found, also, that much depends on the quality of the seed sown. As an illustration, Mr. Brodie had two kinds of turnips, one producing a third more than the other with the same cultivation.

Henry's Double-Walled Bee Hive.—We expected to have had an opportunity of inspecting this hive by this time when we penned the brief notice of it which appeared in our last issue, but not having done so as yet, must defer a further account of it for the present.

Canadian Bee-Keepers' Guide.—We are glad to find that this excellent little handbook of apiculture has reached a third edition. It is just the thing for practical bee-keepers, especially such as are just beginning. It may be obtained from the author, Mr. J. H. Thomas, Brooklin, C. W., or at The Canada Farmer office. Price twenty-five cents. Parties ordering by mail will add three cents to pre-pay postage on the book.

Flower Seeds.—We have to acknowledge the receipt of a package of flower seeds from Mr. A. W. Goldsmith, whose advertisements often appear in our columns, and whose floral productions have carried off many of the prizes at our Provincial Exhibitions for some years past. Intending competitors at shows would do well to send for a catalogue, as the reputation of Mr. Goldsmith as an exhibitor is well known. See advertisement in our present issue.

Agricultural Intelligence.

Meeting of the Board of Agriculture.

A MEETING of the Board of Agriculture took place on Wednesday, 27th ult., at the Board Rooms, Agricultural Hall, Toronto. The following members were present, viz:—Hon. D. Christie, Hon. A. Burnham, Hon. G. Alexander, R. L. Denison, Dr. Richmond, F. W. Stone, W. Ferguson, M. P. P., J. C. Rykert, J. P. Wheeler, President of the Agricultural Association, Professor Buckland, and Dr. Beatty, President of the Board of Arts.

The Secretary submitted a communication from the Bureau of Agriculture, stating that Messrs. Christie, Burnham, Ferguson and Richmond, had been re-elected members for the ensuing two years.

On motion of Mr. Rykert, Seconded by Dr. Richmond, Mr. Christie was then elected President; and on motion of Dr. Richmond, seconded by Mr. Stone, Mr. Burnham was elected Vice-President for the current year.

A number of communications were then submitted and disposed of, amongst which the following may be mentioned:

From Mr. W. A. Cooley, tendering his resignation as General Superintendent of the Association, owing to other demands upon his time. The Board, in consideration of the highly satisfactory manner in which Mr. Cooley had heretofore discharged the duties of his office, unanimously concurred in a resolution desiring him to continue to hold the same.

From the Fruit Growers' Association, suggesting certain changes in the Horticultural Department of the Prize List. Deferred.

A committee was then appointed to revise the Prize List for the current year, consisting of Messrs. Wheeler, Christie, Stone, Denison and Rykert, for the Agricultural Department, and the President, Vice-President and Secretary of the Board of Arts, for the Arts Department.

The distribution of the nomination of Judges in the various counties was also referred to the Prize List committee.

It was resolved that the Provincial Exhibition of this year, at Kingston, shall be held in the week commencing 23rd September next.

Moved by Mr. Wheeler, seconded by Mr. Denison, That all sheep to be exhibited at the exhibition to be held at Kingston, in September next, must be closely shorn after the 25th of April coming. Carried.

A letter was submitted from Mr. McCord, City Chamberlain, stating that the Toronto Exhibition Buildings, now occupied by the troops, had been duly insured for the sum of thirty thousand dollars. Received.

From Mr. Carnegie, Secretary of the County of Peterboro' Agricultural Society, in reference to the proceedings of certain Township Societies in that county, which had made a practice of retailing seeds or other articles of merchandise to their members, and had returned the money so received as subscriptions on application for the public grant. The Secretary was instructed to reply that such practice was illegal.

The Secretary submitted a full inventory of the articles shipped to the Paris Exhibition, with the names and residences of the exhibitors—in all thirty-nine cases or packages. Received.

A communication from the Bureau of Agriculture, assenting to a reduction in the price of the Riga Flax Seed, imported from Russia, still on hand.

A large number of communications, including two lengthy affidavits, were submitted from parties connected with the West Elgin Agricultural Society, from which it appeared that the annual meeting of that Society had been held at New Glasgow on 21st January last, at ten a.m., that a Board of Officers and Directors had been elected, and the meeting adjourned, but that afterwards on the same day, and at the same place, certain members of the Society, on the ground that the proceedings already terminated had been irregular, held another meeting, and elected a different set of Officers and Directors. The Board was applied to, to give its opinion as to which of the two Boards of Directors elected should be recognized as the legal one. Delegates were present from each of the parties, and stated their respective cases fully.

It was then moved by Mr. Rykert, seconded by Mr. Stone, That this Board, having heard the Delegates from the West Elgin Society in reference to the dispute as to the organization of the County Society at the annual meeting, are of the opinion that the officers elected at the meeting held at ten o'clock in the morning should be recognized by the Board, the same having been legally called by the Vice-President, and that the Secretary be authorized to notify the several parties of this resolution. Carried.

From Mr. Lynch, Secretary of the County of Peel Society, asking for advice in the case of Township Societies depositing a larger amount on application for the public grant than had been actually subscribed and paid by members for the current year. The Secretary was instructed to reply that such deposits were illegal, and that the Treasurers of Township Societies should be requested to give a full list of their members and the amount paid by each, on making their deposits.

From Mr. Alex. Kirkwood, of Ottawa, accompanying his pamphlet on "The Milkweed, or Silk-weed, and the Canadian Nettle, viewed as Industrial Resources." The Secretary was instructed to order twenty copies for distribution.

From the Caledon Township Agricultural Society, a resolution expressing the desire of the Society to be incorporated. Filed.

Several communications were received in reference to a proposal to establish a second branch Society in the Township of Blenheim, County Oxford, or in adjoining parts of Blenheim, Blandford, and Wilmot, partly in Oxford and partly in Waterloo counties. The Secretary was instructed to reply that such Society could not be legally established.

The Committee appointed to revise the Prize List were instructed to meet for that purpose on Thursday, 4th inst.

After some further business the Board adjourned, to meet at Kingston on 1st May next.

Newburgh Cheese Factory.

To the Editor of THE CANADA FARMER:

SIR,—Last week the stockholders of this company appeared before the County Registrar, for the purpose of becoming incorporated, with $1,500 capital, in shares of $20 each. Messrs. C. H. Miller, J. D. Ham, Robert Madden, Peter Miller and J. B. Aylsworth, are the trustees elected for this year.

The company have purchased half an acre of land, known in Newburgh as "the Big Spring," upon which there is a substantial stone building, sixty by forty feet, three stories high, together with a never-failing spring of water, sufficient for extensive manufacturing purposes. Competent judges have pronounced this to be an excellent site for a cheese factory. Some half-dozen men are now at work, making the necessary repairs; they are to have the apparatus put in, ready to commence manufacturing, on the first of May.

Mr. Hayworth, who has been for a number of years engaged extensively at cheese-making in New York State, is to have the superintendence, and is to make, in addition to the common article, the famous Cheddar cheese. J. B. A.

Newburgh, 1st April, 1867.

OFFICERS OF THE WEST BRANT AGRICULTURAL SOCIETY FOR 1867.—President, Thomas Grantham; 1st Vice-President, Geo. Peatman; 2nd V.-P., Archibald McEwen; Secretary and Treasurer, Duncan McKay; Directors, Daniel Perley, Erastus Benedict, Alanson Silverthorn, James Maxwell, Jacob Bingham, (all of Brantford); Adbeel Eddy, and Charles Chapin, (both of Oakland).

ILLINOIS STATE FAIR FOR 1867.—The premium list of the Illinois State Agricultural Society has been sent to us by the Secretary, and we learn that the next exhibition will be held in Quincy, commencing on Sep. 30th, and to continue to Oct. 5th. The whole amount of prizes to be awarded exceeds $7,000, besides a large number of silver medals. This latter feature we think worthy of imitation, and believe that such a distinction would in many cases be preferable to a small money premium.

Entomology.

Cut-Worms Destroying Spring Wheat.

IN a recent number of THE CANADA FARMER, that that for March 1st, we published a letter from a correspondent in the county of Huron, asking for information respecting a "Grub in spring wheat;" as he gave us no particulars as to the nature and habits of this grub, we were compelled to ask him for further information This he has now kindly given us in the following letter, for which we thank him very much:

To the Editor of THE CANADA FARMER:

SIR,—I note your remarks in your issue of the 1st inst., regarding the grub which I wrote about. I am sorry I did not send you some specimens of it last summer, at the time it was committing its depredations. Should it make its appearance in the coming season, I shall see and attend to this. However, I may state that last summer, shortly after the wheat was nicely started, and not more than four or five inches long, it began to wither and die. On taking hold of the withered plant, it was found to have lost all hold of the ground. As far as I remember, the stem appeared to be eaten through just below the surface of the ground. On scraping away a little of the soil with the finger, the grub was found. It was about one inch long, a little thicker than an ordinary goose quill, especially about the middle, of a whitish colour, with a dark brown or black head. I have looked up the number of the FARMER you referred me to, viz., for 1st July, 1865, but as far as I see, it does not belong to any of the classes mentioned in that number. INQUIRER.

Turnberry, Co. Huron, 8th March, 1867.

From the foregoing account of the appearance of the grub, and the part of the plant it affects, we believe it to be a species of "cut-worm," a race (as we described them in reference to the turnip crops) of "horrid, fat, greasy-looking caterpillars." These worms are usually of a dirty-white or dull ash-color, with a brownish or blackish head, and a few indistinct stripes along the sides of the body; they are furnished with eight pair of feet; three pair near the head, sharp and claw-like, and of a horny consistency; four soft and thick pair for supporting the body, situated near the middle; and a terminal pair at the tail. They are generally about an inch or an inch and a quarter long, when in the midst of their work of destruction, though often longer when full-grown; their size, as mentioned by our correspondent, is a little thicker than that of an ordinary goose-quill. In size and general appearance they thus correspond to his account of the grubs attacking his spring wheat; we shall find that in their habits, also, they agree with his statements. "Cut-worms" are so called because they attack young plants of various kinds, both in the garden and in the field, and *cut them off* either just under or just above the surface of the ground, as smoothly as if it were done with a sharp knife. The only indication that is given of their proceedings is the premature withering and decay of the plant, for they work only at night, and, at the approach of day, burrow down a few inches into the ground, or hide under some convenient chip or stone, or leaf. They have long been regarded with any but amicable feelings by farmers and gardeners, both on this continent and in Europe, and their ravages have often been chronicled, their appearances described, and remedies suggested for them. In America, unfortunately, though their habits are but too well known, their complete natural history, except in one or two cases, has not been scientifically studied, nor have the caterpillars been traced up to their parent moths. This much, however, is established respecting them, namely, that when fully-grown the worms descend a little way into the ground, and form a dark, mahogany-colored

chrysalis, from which emerges, in about a month, an ordinary dull-colored moth, with no very conspicuous marking, such as we often see flitting in numbers about our lights on warm summer evenings: the autumn broods remain in the chrysalis state all winter. The moths, so far as is known at present, belong to only two genera, *Agrotis* and *Hadena*; of the former, the males have their antennæ slightly feathered of the latter they are simple. A large number of species of both genera are known to inhabit this country, and are included in the list published by our Entomological Society.

What particular species it is that attacks the spring wheat cannot of course be determined, until the insects have been watched through all their stages of growth, and the parent moth has been identified. But as the habits of cut-worms are all pretty much the same, our ignorance on this point is not of so much consequence as it might otherwise be. In England two species are known to attack wheat crops - *Agrotis tritici* and *A. segetum*; ours, we doubt not, are not very different.

Our correspondent states that the grubs were most destructive in old sod-land that had been newly ploughed up. This is a point of importance, as Dr. Fitch tells us that the very destructive Indian-corn cut-worm feeds when young upon the roots of grass, and then, when sufficiently strong, attacks the corn, its chief food. In the case before us the grubs have no doubt been luxuriating, perhaps for years, in the old sod-land; but suddenly this was ploughed up "in the spring" (we are told), and their old means of subsistence was gone; what could they do, then, but take advantage of the new and not very dissimilar food that was presented to them—the young and tender roots of the spring wheat? Had the land been thoroughly well ploughed as late as possible in the autumn, and again very early in the spring, there would probably not have been the same sad tale to relate, for then the insects would have been turned out of their snug winter quarters and exposed to keen and sudden frosts without their usual earthy protection, to the utter destruction of the greater number of them. This is the remedy we would recommend, and it is an old and approved method in similar cases; but let it be borne in mind that the last autumn ploughing must be *as late as possible*, for these caterpillars often feed till winter is almost upon them.

We have stated above that cut-worms commit their depredations by cutting off young plants close to the surface of the ground; this is their usual method of proceeding in the case of cabbages, beans, and other vegetables, cucumber and melon plants, corn, wheat and grass, and even the young suckers of trees and bushes; and until recently this was supposed to be their only mode of injuring us. In a late number, however, of the *Prairie Farmer*, Mr. C. V. Riley, the editor of the Entomological Department, mentions some more facts about cut-worms, and shows that some species actually crawl up young fruit trees, and eat out the hearts of their fruit buds, proving particularly injurious to dwarf apple and pear trees, especially when grown upon a sandy soil. He states that "they work during the night, always descending just under the surface of the earth again at early dawn, which accounts for their never having been noticed in their work of destruction." He gives us descriptions and figures of three different worms that he has detected at this work, and promises us a complete history of them when they have finished their transformation into moths. We look forward to it with much interest.

We shall be much pleased to receive specimens of the worms from our correspondent, should he be so unfortunate as to be troubled with them again next summer, and we shall do our best to elucidate their natural history, a more complete acquaintance with which may perhaps suggest some efficient remedy against their destructive ravages.

First Exhibition of the Canada West Poultry Association.

The newly-formed Canada West Poultry Association, whose advent and doings we have lately had the pleasure of chronicling, entered on a new phase of its existence on the 10th inst., and made its *debut* in the Agricultural Hall in an Exhibition capacity. Considering the shortness of the time which has elapsed since the Association was organized, and the many difficulties to be surmounted in the getting up of a good Show, it was rather a hazardous undertaking, and one that evinced no small degree of pluck and mettle on the part of both officers and members. They may fairly be congratulated on the result of their venture, for their first Exhibition was a complete success.

A most creditable display was made; and although a more general co-operation on the part of poultry-breeders and fowl-fanciers would have swelled its proportions very greatly, it is not often that an opportunity is afforded, in this country at least, of seeing so many really fine birds brought together at a Show. The arrangements for cooping and displaying the fowls were made with much judgment and taste, reflecting the greatest credit on the indefatigable Honorary Secretary, Lt.-Col. Hassard, to whose exertions, we believe, principally if not wholly, both Association and Exhibition owed their existence. It would be difficult to find a place more admirably adapted to the purposes of such a Show than the fine Hall of the Agricultural Society, and we imagine many persons must have been pleasingly disappointed at the capacious dimensions and beautiful architecture of the room. Those of the visitors to the Hall on Wednesday and Thursday last, who pottered about in the mud at the recent Provincial Exhibition, and vainly tried to get a good look at the be-draggled fowls, were well qualified to mark the contrast between the effect of a Show in uncomfortable and comfortable quarters.

We may briefly note a few leading features of the recent Poultry Show. Beginning with the White-faced Black Spanish, some very fine birds were exhibited, and this class was, as a whole, one of great excellence. The same may be said of the Games, which were in great force, and included some magnificent specimens. A pair of Derby Games, owned by Mr. J. Peters, of London, were superb. The Grey Dorkings were well represented, and Messrs. Rykert, of St. Catharines, and Peters, of London, may be particularized as having some remarkably good specimens in this class. We only observed one really fine pair of White Dorkings, the property of Mr. J. Bogue, of London. The Buff and White Cochins, of which Col. Hassard was the only exhibitor, were thoroughly first-class in every respect. The Brahma Pootras were not on the whole so well up to the mark as they might have been; the best were shown by Messers. R. A. Wood and T. McLean of this city. The Polish classes contained a few good specimens, but more that were quite inferior. The Hamburghs mustered strong as to numbers, and there were some fine birds among them, especially the pens owned by Messrs. Howard and McLean, of this city, and Mr. J. Peters, of London. Among the Bantams, may be named the Silver Sebrights owned by Col. Hassard, of this city, and Mr. Rykert, of St. Catharines. Mr. J. Peters, of London, was alone in his glory with Turkeys, and had a splendid pair of bronzes, and an equally good pair of wild ones. The Editor of this journal was fortunate enough to take the first prize in geese, with a pair of Bremens, which he is not alone in thinking remarkably good birds. It would be hard to beat the Aylesbury Ducks shown by Messrs. Peters and Bogue, of London, or the Rouens owned by the first-named of these gentlemen. Some East India Ducks, exhibited by Col. Denison, of this city, were much and deservedly admired, as were a very showy pair of Pea-fowl, the property of the same gentleman. We must not omit to mention a superb pair of La Fleche fowls, exhibited by Mr. R. A. Wood, and a pair of Crève Cœur fowls shown by Mr. T. McLean. We hope, in a future issue or issues of this paper, to furnish some illustrations of a few of the more noticeable specimens that were on exhibition, and we will only add to this brief notice, that while in our opinion the judges discharged their delicate and unenviable duties with much ability and discrimination on the whole, there was in some cases a rather too stringent adherence to the "standard of excellence" set for Old Country Exhibitions, in consequence of which some really fine fowls, imported by enterprising breeders at considerable expense, hardly received the honour which was fairly their due.

THE PIGEONS.

The display of pigeons was a very prominent feature in the Exhibition, if indeed it did not constitute its chief attraction and excellence. We present herewith a splendid and beautiful engraving of a few of the varieties shown, and those persons who had the opportunity of actually seeing the birds will, we think, at once admit that our artist has been very successful in catching their contour and general characteristics. Col. Hassard's four pens of Carriers were magnificent creatures; and are not likely to be surpassed unless some very spirited fancier goes to England and imports regardless of expense. These Carriers are essentially fancy birds, crosses on the Antwerp Carrier being alone used for flying purposes. The Pouters exhibited by the same gentleman were also first-class, but we were glad to see Canadian pigeon-fanciers in the field competing with the gallant Colonel. The Fantails and Jacobins of Messrs. McGrath, Riddell and Howard, were very fine, as were the Short-faced Tumblers owned by Mr. McGrath. Mr. Riddell showed a curious and rare variety of pigeons known as the "Magpie" breed.

Although pigeons are not by any means so useful as poultry, we are glad to see a taste for them showing itself. In this country the birds of the air leave us for many months of the year, and it is very pleasant to see around us, even on a hard winter's day, flocks of pigeons. They stand our severe weather admirably, and lend not a little cheerfulness to the homes of man when the surroundings are dreary and wintry.

The Judges were Messrs. Finch, Foreman, Charles Martin, Perre, and Wight, all of this city.

We append the full prize list, and have merely to add, by way of explaining the apparently inordinate figures attached to some of the fowls, that rule 10 of the Poultry Association provides that "Exhibitors "will in all cases be required to state the price at "which they will sell their specimens, which must be "sold in pairs, and not divided; a prohibitory price, "or what appears to be so, can be named, but if de-"manded, the sale must take place at that price;" and that the sums appended to the respective awards indicate the price at which the specimens may be purchased.

PRIZE LIST.

POULTRY.

BEST COCK AND HEN OF ANY AGE.

CLASS I.—SPANISH (ANY COLOUR).

First prize, by Thos. Haworth, Esq., Toronto, second prize, do, an embossed card—18 entries.

	PRICE.
1st prize J. S. Birchall, Toronto	$20
2nd do. do do do	20
Highly commended, J. McGrath, N. R., Toronto	12

CLASS II.—DORKING (COLOURED).

First prize, value $5, by Rice Lewis, Esq., second prize, an embossed card—7 entries.

1st prize, W. G. Rykert, St. Catharines	$30
2nd do. James Metcalf, Eglinton	10
Commended, J. S. Birchall	20

CLASS III.—DORKING (WHITE).

First prize, value $7, Tegetmeir's Poultry Book, given by Chewett & Co.; second prize, an embossed card—4 entries.

1st prize withheld.	
2nd do. J. E. Withers, Toronto	$10

CLASS IV.—COCHIN CHINA (ANY COLOUR).

First prize, piece of plate given by Sheriff Jarvis, second prize, an embossed card—8 entries.

1st prize, Lt. Col. Hassard, Toronto	$20
2nd do. do. do	20
Highly commended do. do.	10
Commended do. do.	10

CLASS V.—BRAHMA POOTRA.

First prize, $4, second prize, an embossed card—7 entries.

1st prize, R. A. Wood, Toronto	$20
2nd do. T. McLean, Toronto	10

CLASS VI.—GAME (BLACK BREASTED AND OTHER REDS).

1st prize, $4, second prize, an embossed card—11 entries.

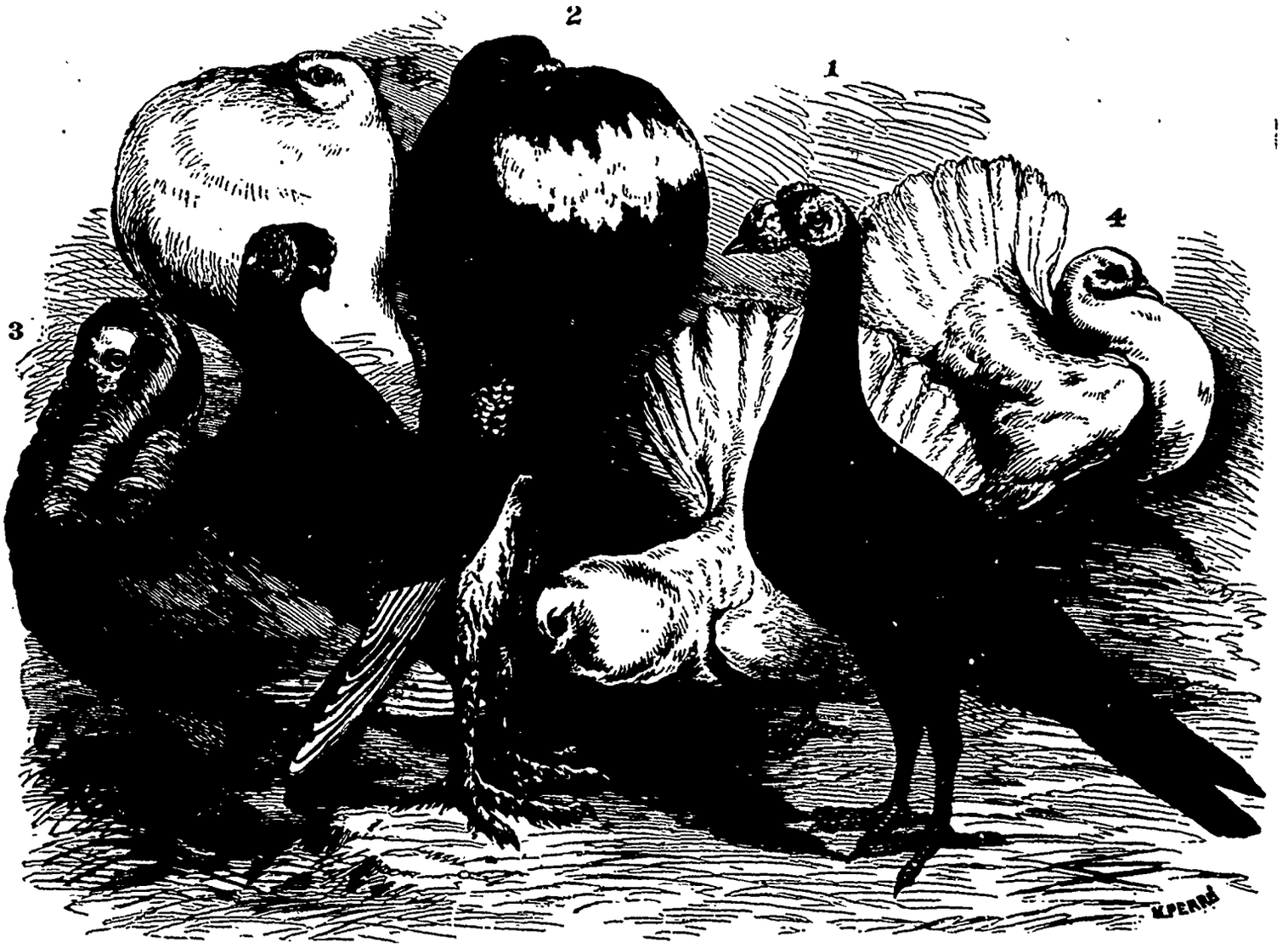
1st prize, G. D. James, Toronto	$10
2nd do. Jno. Peters, London	10
Highly commended, J. Hendrie, Toronto	10
Commended, Jas. Beswick, Toronto	20

CLASS VII.—GAME (ANY OTHER VARIETY).

First prize, piece of plate given by Messrs. Wharin & Co., second prize, an embossed card.—12 entries.

1st prize, James Beswick	$20
2nd do G. A. James	10
Highly commended, J. Beswick	20
Commended, John Peters	10

PRIZE PIGEONS AT THE FIRST EXHIBITION OF THE CANADA WEST POULTRY ASSOCIATION



1. CARRIER. 2. POUTER. 3. JACOBIN. 4. FANTAIL.

CLASS VIII.—POLISH (BLACK WITH WHITE CRESTS).

First prize, piece of plate by John Macdonald, Esq; second prize, an embossed card.—3 entries.
1st prize, John Rogue, London, C. W. $12

CLASS IX.—POLISH (GOLD SPANGLED).

First prize, $4; second prize, an embossed card—9 entries.
1st prize, withheld.
2nd do. J. McGrath $12

CLASS X.—POLISH (SILVER SPANGLED).

First prize, piece of plate by J. E. Ellis & Co.; second prize, an embossed card.—7 entries.
1st prize, withheld.
2nd do J Rogue $7

CLASS XI.—HAMBURGH (GOLD PENCILED)

First prize, $4; second prize, an embossed card.—3 entries.
1st prize, A McLean Howard, Toronto $8
2nd do. do. do. do. 20

CLASS XII.—HAMBURGH (SILVER PENCILED).

First prize, piece of plate by Col. Hassard, Hon. Sec., second prize, an embossed card.—1 entry.
1st prize, Mr. John Peters $15
2nd do. withheld.

CLASS XIII.—HAMBURGH (GOLD SPANGLED).

First prize, piece of plate by J. E. Ellis & Co., second prize, an embossed card.—2 entries.
1st prize, withheld.
2nd do. A. McLean Howard $20

CLASS XIV.—HAMBURGH (SILVER SPANGLED).

First prize, $4; second prize, an embossed card—3 entries.
1st prize, withheld.
2nd do. John Peters $10

CLASS XV.—HAMBURGH (ANY OTHER VARIETY).

First prize, $4; second prize, an embossed card.—6 entries.
1st prize, John Peters $12
2nd do. Thomas McLean 4

CLASS XVI.—BANTAMS (GOLD OR SILVER LACED).

First prize, $4; second prize, an embossed card.—6 entries.
1st prize, Lt.-Col. Hassard $10
2nd do. G. Rykert 10

CLASS XVII.—BANTAMS (ANY OTHER VARIETY).

First prize, $4; second prize, an embossed card.—6 entries.
Prizes withheld.

CLASS XVIII.—TURKEYS.

First prize, $4; second prize, an embossed card.—1 entry
1st prize, Jno. Peters $15

CLASS XIX.—TURKEYS (WILD).

First prize, $4; second prize, an embossed card.—1 entry.
1st prize, Jno. Peters $15

CLASS XX.—GEESE (ANY VARIETY).

First prize, $4; second prize, an embossed card.—3 entries.
1st prize, Rev. W. F. Clarke, editor of CANADA FARMER, Guelph $60
2nd prize, John Peters 15

CLASS XXI.—DUCKS (AYLESBURY).

First prize, $4; second prize, an embossed card.—5 entries.
1st prize, John Rogue, Toronto $20
2nd do. John Peters 10

CLASS XXII.—DUCKS (ROUEN).

First prize, $4; second prize, an embossed card.—2 entries.
1st prize, John Peters $15
2nd do. James McGrath 10

CLASS XXIII.—DUCKS (ANY OTHER VARIETY).

First prize, $4; second prize, an embossed card.—3 entries.
1st prize, J. Williams, Niagara ..... $ 4
2nd do James Medcalf 10

CLASS XXIV.—ANY OTHER VARIETY NOT INCLUDED IN THE FOREGOING CLASSES.

First prize, $4; second prize an embossed card.—11 entries.
(An extra prize of $5 for the best pair of French Fowls exhibited in this class, given by John Macdonald, Esq., M P P.)
1st prize, J. E. Withers, (white Poland fowls) ..... $ 10
2nd do. Col. R. L. Denison, (pea fowls) 100
Highly commended, A. Smith, Toronto, (Mexican fowls) 10
Extra prize for French fowls, given by John Macdonald, Esq 5
1st prize, R. A. Wood, (La Fleche fowls) 50

PIGEONS.

CLASS XXV.—BEST PAIR OF CARRIERS, (ANY COLOUR).

First prize, piece of plate, by John Macdonald; second prize an embossed card.—4 entries.
1st prize, Lt.-Col. Hassard $100
2nd do do do 100
Highly commended do 100
Do do do 100

CLASS XXVI.—POUTERS (ANY COLOUR).

First prize, $5, given by John Macdonald, Esq.; second prize, an embossed card—8 entries.
1st prize, Lt.-Col. Hassard $50
2nd do. A. Riddell, Toronto 35
Highly commended, J. McGrath 12

CLASS XXVII.—TUMBLERS (SHORT FACED).

First prize, piece of plate, by T. McLean, Esq.; second prize, an embossed card; 2 entries
1st prize, J. McGrath $12
2nd do do 8

CLASS XXVIII.—TUMBLERS, COMMON (BEST 4 PAIR).

First prize, wicker coop, by J. D. Linton, Esq.; second prize, an embossed card—3 entries.
1st prize, J. McGrath $10
2nd do. D. Davis, Toronto 25

CLASS XXIX.—JACOBINS (ANY COLOUR).

First prize, $2; second prize, an embossed card—3 entries.)
1st prize, A. Riddell, Toronto $7 50
2nd do. withheld

CLASS XXX.—FANTAILS (ANY COLOUR).

First prize, a meerschaum pipe, by H. Nerlich & Co.; second prize, an embossed card—6 entries.
1st prize, J. McGrath $12
2nd do. A. McLean Howard 6

CLASS XXXI.—BARBS (ANY COLOUR).

First prize, rocking-chair, by Messrs. Jacques & Hay; second prize, an embossed card—1 entry.
(The birds were not forthcoming).

CLASS XXXII.—OWL PIGEONS (ANY COLOUR).

First prize, photographic album, by C. A. Backus; second prize, an embossed card—1 entry.
(Birds not forthcoming).

CLASS XXXIII.—NUNS (ANY COLOUR).

First prize, $2, second prize, an embossed card—no entries.

CLASS XXXIV.—TURBITS (ANY COLOUR).

First prize, bird-cage, by Hiram Piper; second prize, an embossed card—1 entry.
(Birds not forthcoming).

CLASS XXXV.—TRUMPETERS (ANY COLOUR).

First prize, $2; second prize, an embossed card—1 entry.
1st prize, Mr. J. McGrath $5

CLASS XXXVI.—ANY OTHER VARIETY OF PIGEON NOT MENTIONED IN THE FOREGOING CLASSES.

First prize, $2; second prize, an embossed card—2 entries.
1st prize withheld.
2nd prize, A. A. Riddell (Magpies) $6 75

Hill Culture of Strawberries.

A quaint old friend used to remark to us that "the best way to do a thing was as good as any." We have long been satisfied that this would apply to strawberry raising, and that what is termed hill cultivation, in connection with keeping the runners closely cut off, is the most profitable, even for extended market culture. The crop is so much larger and the berries so much finer, that they more than repay the additional labour. Among the largest and most enterprising marketers in the country, is our correspondent, A. M. Purdy, of South Bend, Ind. We see by his catalogue just published, which, by-the-way, contains much that would be valuable for beginners, that he has fully adopted the opinion that raising in hills is most profitable. He says: "We have heretofore strongly advocated the matted row system, but after careful and practical comparisons, we are satisfied that the hill method is the best, one year after another. The fruit average double the size—the crop double, and, on most soils, with less labour. In hills they form such strong, bushy tops, that the fruit and blossom, are protected from severe late spring frosts. Last spring we had a late frost in May, that nearly ruined our plantations that grew in matted rows, while those grown in hills were but slightly damaged, and yielded a very heavy crop. Another reason is, that the heavy tops mat down around the crown in the winter, and protect it from the action of the frost, while those grown in the matted row form but small tops and are not thus protected. Again, if the ground should be weedy, they are attended to with much less work and care than if allowed to throw out runners. The work can nearly all be done with the hoe and cultivator, while if in matted rows, it has to be done with the fingers, which is very laborious indeed." He adds, that the only case in which the matted row method is admissable, is where the land is quite free from weeds and is not liable to severe frost in winter or spring; and while all varieties will do better grown in hills, some will not succeed in any other way. As soon as the hills are through bearing, rotted manure or compost is ploughed or spaded deep between the rows, and in addition to cutting off all the runners that are starting, the entire top of the plant is taken off close to the crown. This is deemed very essential—preventing the plant from remaining in a dormant state for weeks, and causing new roots to be thrown out immediately, and making a large mass of stool by autumn. The matted or alternate row system here formerly practised was described in some of our former volumes, and consists in keeping the rows clean after they are set out, and training the runners along the row so that they ultimately form a thick mass in a strip about a foot or a foot and a half wide. Rotted manure is scattered among them before freezing, and they are worked and cultivated with the fork in spring. After fruiting, these rows are again dressed down to about six inches in width, and treated as before for another year's bearing; or else they are allowed to fill with new plants the spaces between the rows, after which the old rows are ploughed or shaded in—a succession of new plants being thus obtained without the labour of setting out by hand.

When the plants are placed in hills at equal distances each way, the runners may be cut off at little or no cost by means of a sharp wheel attached to the side of the cultivator. A more perfect mode, however, is to do the work by hand with sheep-shears—by the use of which a ready and practised man will go over from one to two acres a day. This mode may be applied to rows which are cultivated only one way.

Moss on Flower Pots.—Ladies who are fond of cultivating flowers in the house, will find great benefit to the plants by spreading a coat of moss over the earth in their flower pots. This keeps the water from evaporating, and the temperature more uniform. Tea grounds are often used for the same purpose. Where a flower pot stands in a saucer, with a hole in the bottom of the pot, put a little sand in the saucer and cover it with moss, and you have a simple and admirable arrangement.—*Ex.*

Rogers' Hybrid Grapes.

You wish to have my experience with Rogers' Hybrid grapes. Having fruited some 18 Nos. of them for several years, I will state my experience with the Nos. I have, beginning with No. 1—by-the-way. I would here remark that this one fully settles in my mind that they are genuine hybrids, as this one partakes clearly of the Chasselas, both in fruit, flavor and wood; it is the lightest in color of any of them, and in my opinion would be the best of all of them, but unfortunately it is rather late for this locality. No. 2, black, very large both in berry and bunch—the largest of all, but not high flavored—rather late. No. 3 is an amber color, berries and bunch not so large as No. 2, but is early, as early as Delaware, of a very sweet, pleasing flavor. No. 4, black, berries and bunch medium size, ripens as early as Concord, and by many considered the best of all of them. Nos. 5, 9 and 11, are of a dark amber color, berries and bunch medium size, somewhat similar in appearance, and somewhat disposed to rot like Catawba. No. 14 is of a light amber color, a truly beautiful grape, of good flavor, medium size berry and bunch, ripens as early as Delaware. No. 15, I unfortunately had sent me spurious,; I can say nothing of it from experience. I have seen and tasted of its fruit; it is early, and I consider it a first-rate grape. No. 19, black, berry and bunch above medium size, in all respects a first-rate grape. No. 25, an amber colored grape, rather late, medium quality. No. 30, a dark amber colored grape, of fair, but not extra quality. No. 32 is a beautiful, light colored grape, but rather late for this locality. No. 33, is a dark chocolate color, berry and bunch above medium size, of a sweet pleasant flavor. No. 34, black, berry and bunch above medium size, not of first-rate quality. Nos. 39, 41 and 44, black, berries and bunch above medium size, very similar in appearance and of good quality. No. 41 is, I think, the best of the black ones. I would further state that I consider all Rogers' Hybrids as hardy as Concord or Isabella, of a strong, robust habit, with a strong, healthy foliage, withstanding mildew, and all of them ripening their wood in good season to withstand the winter, and are, in my opinion, a great acquisition to our list of hardy grapes.—*Cor. Co. Gent.*

Lawns.—From the nature of our climate we can not, as a rule, have as perfect lawns, green, velvety, and fresh, as they do in England; but with due care in preparing the soil, and by using seed in abundance, we can create the foundation of a lawn equal to theirs, and that by proper care and attention to mowing, rolling, etc., will present an equally good appearance eight months out of the nine that we expect to enjoy it. No complete lawn, no durable lawn, no lawn that will bear extremes of heat in summer and preserve the roots of grass from cold in winter, can be created without forming for it a soil of the best quality, light, loose, and friable, at least sixteen inches deep. And further, no good lawn, no perfect mat of grass can be obtained in one, two, or three years, without an abundance of seed. All spaces not occupied by seeds of grass sown must and will be filled with a growth of weeds that, as they grow, absorb the elements of plant-life in the soil, and choke the young and more tender growth of grass. For an acre, use two bushels of Blue Grass, two bushels of Red Top, and twenty pounds of white clover, and sow as early as possible in spring.—*Hort.*

Half an Acre Enough.—A Shoemaker over in Jersey bought a half acre lot. He was fond of fruit and read the papers. The soil was wet clay, and he selected fruit suited to the climate. He built a house and put his land in a condition to produce fruit. He had no manure but the droppings of street cattle. In his leisure, he brought from the woods, bark, rotten wood, moss, and leaf mould, which he mixed with the soil three feetd eep. This was done by degrees, and as fast as the ground was prepared he planted fruit. He became so interested and successful that he retired from the cobbler's bench. I was his near neighbour, and knew him intimately. His half acre supported himself and wife comfortably, almost in elegance. She had no servant, and had plenty of time to cultivate flowers. Strangers inquired about their beautiful home. Isabella grapes and common currants formed the bulk of his fruit. With a better selection, his income would have been larger. Others have had the same success on small pieces of ground. One I knew, who supported his family on one acre. Half was in grapes, the crop of which in one season sold for $800, and he had no labour bills to pay. If concentration will give success, let us know it and practise it.—*Dr. Peck, in N. Y. Tribune.*

Markets.

Toronto Markets.

"CANADA FARMER" Office, April 12, 1867.

SINCE our last report we have again experienced a further advance in flour and grain, and with large transactions in all articles, our market closes firm and active.

Flour—Has been in active request, and superfine has advanced fully 50c per barrel, closing very active. The sales of the week will amount to at least 10,000 barrels. Prices range from $7 50 to $8. In the higher grades there has not been so much activity, but fancy sold at from $8 to $8 25; extra at $8 75; and superior at from $9 to $9 15. These quotations are slightly below those of last week. For coarse grades there is an active demand. Sales have been made of No. 2 at $7.

Wheat.—There has been unusual activity in this grain, and good, sound dry spring has been much wanted, and has advanced fully 10c and 15c per bushel. Golden drop changed hands at $1 90 and $1 95, good dry Scotch wheat sold at $1 80 to $1 85 and $1 90. The total purchases of this grain for the week would amount to from 50,000 to 60,000 bushels, principally on United States account. Fall wheat has been in moderate request, and has not advanced very materially over our previous quotations. Sales have been made at equal to $2 06 f.o.b. Since then some small lots sold at $2 10. Holders firm, and now asking $2 15 to $2 25, according to quality.

Peas—Have been in active request throughout the week, and prices have advanced fully 4c to 5c on the street over our previous quotations—67c to 71c were the opening prices, on the street 72c to 73c is now paid; sales of several round lots were made at 75c to 76c f.o.b., market closes with an active demand at these prices.

Barley—Has been quiet and steady without very much doing, the advance in the price of gold checking operations in this article—prices at the close are 60c to 63c for good parcels on the street, and 64c for car loads; a sale of one lot of 5,000 bush. is reported on p.t.

Oats—Are scarce and much wanted, and have advanced from 2c to 3c; since last week 38c to 39c, and now 43c to 45c are the street prices.

Seeds—Clover is quiet and without material change; current rates $7 50 to $7 75; Timothy very dull; the market is overstocked, and selling at $1 50 to $2 20, in retail parcels.

Provisions—The market is active, Mess Pork sold at $18 50, no prime mess offering. Bacon, Cumberland cut, 7c to 8c, Hams, 8½ to 9c; smoked, 10c to 11c; Butter, 10c to 13c; Cheese, 13c to 14c; Lard, 9c to 10c; Eggs, 15c; Dressed Hogs sold at $6 per 100 lbs., dressed weight; Dried Apples, 9c to 10c.

Hops—Canada, 30c to 55c.

THE CATTLE MARKET.

There has been the usual number of cattle offering in this market; prices are without material change.

The following are the quotations per 100 lbs., dressed weight 1st class cattle $7. 2nd class do. $6, Inferior do. $5 to $5 50.

Hamilton Markets.—*Wheat*—Very little offering today, in consequence of bad roads. *Wheat*—red, $1 80 to $1 85, sprng, $1 70 to $1 80 *Barley*—50c to 55c *Oats*—32c to 35c. *Peas*—65c to 70c. *Buckwheat*—35c to 37½c. *Corn*—65c to 70c. *Clover seed*—$7 50 to $8. *Timothy*—$2 to $2 50. *Flax seed*—$1 50 per bush. *Eggs*—fresh from farmers' waggons, 12½c to 15c per doz. *Butter*—The transactions in butter for the week have not been very heavy, and prices have not changed since our last report; tub, 9c to 11c per lb.; rolls, 10c to 12c per lb., fancy rolls, from farmers waggons, 18c per lb. *Flour*—From white wheat, $9 to $9 50, do red winter, $8 to $8 50, do spring, $7 50 to $8; middling uplands, $6 to $6 50. *Oatmeal*—$4 75 to $5 25. *Cornmeal*—$1 75 to $2. *Bran*—50c to 62½c. *Shorts*—60c to 70c. *Chop feed*, $1 25 per 100 lbs.

Montreal Markets.—Receipts, *wheat*, 350 bush, *Peas*, 700 bush; *Oats*, 500 bush; *Flour*, 500 bbls. *Flour*, more demand from dealers. Ordinary superfine sold at $8 50. Strong, $8 65 to $370 and $8 75, but the latter in very rare cases. Extra, little doing, and sold in small parcels. Large sales oats reported yesterday at 40c per 32 lbs. No sales peas reported to-day for very choice brands. Oatmeal, $6 asked, but no sales. *Flour*—Superior extra, $9 25; extra, $9, fancy, $8 75; Welland canal superfine, $8 50; superfine No. 1 Canada wheat, $8 50 to $8 75; do No 2 Canada wheat, $8 to $8 10; fine, $8 60 to $7. *Wheat*—Fall, none; Spring, none; Western, none. *Rye*—none. *Oats*—per 32 lbs, 40c. *Barley*—per 48 lbs, 60c to 65c. *Peas*—per 66 lbs, 95c. *Butter*—none. *Pork*—Mess, $19 50 to $20, prime mess, $14 50 to $15; prime, $18 50. *Ashes*—first pots, $5 80 to $5 87½; first pearls, $8 25. *Bay Flour*, $4 10 to $4 25. *Rye Flour*, $5 75 to $6 per bbl.

Guelph Markets.—*Fall wheat* per bushel $1 70 to $1 95, *Spring wheat* do, $1 50 to $1 71. *Oats*. 40c to 45c. *Peas* do. 55c to 64c. *Barley* do. 45c to 52c. *Hides*, per 100 lbs., $6 50 to $6 75. *Beef*, per 100 lbs., $6 to $7. *Pork* $5 50 to $6. *Wool* per lb., 34c. *Eggs* per dozen, 12c. *Butter* per lb., 11c to 13c. *Apples* per bushel, 60c to 80c. *Potatoes*, per bag, 55c to 75c. *Sheepskins*, 75c to $1 25.

Galt Markets.—*Flour*—F. W. $4 50 per 100 lbs; S. W. do. $3 72. *Wheat*—Fall, $1 75 to $1 85 per bush; amber, $1 60 to $1 70; spring, $1 50 to $1 65. *Barley*, 40c to 45c per bush. *Oats*, 32c to 34c per bush. *Butter*, 12c to 14c. *Eggs*, 10c to 12½c per doz.

London Markets.—*Fall wheat*, $1 80 to $2. *Spring wheat*, $1 80 to $1 90. *Barley*, 56c to 58c. *Peas*, 62c to 63c. *Oats*, 37½c to 40c. *Corn*, 60c to 70c. *Buckwheat*, 40c. *Rye*, 65c to 70c. *Seeds*—Clover, $7 50 per 60 lbs, Timothy, $2 75 to $3 per 48 lbs. *Hides*, $7. *Sheepskins* $1 to $1 50 each. *Wool* 23c per lb.

Goderich Markets.—*Spring wheat*, $1 60 to $1 60; *Fall wheat*, $1 85 to $1 92. *Oats*, 40c to 50c. *Flour*, $7 to $8 50. *Barley*, 50c to 57c. *Peas*, 65c to 65c. *Sheep*, $4 to $5. *Beef*, $6 to $6 50. *Hides* (green), $5 50. *Butter* per lb, 14c to 15c *Potatoes*, 60c to 75c. *Eggs* per doz., 10c.

Contents of this Number.

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