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THE BRITISH AMERICAN



CULTIVATOR.

"AGRICULTURE NOT ONLY GIVES RICHES TO A NATION, BUT THE ONLY RICHES SHE CAN CALL HER OWN."—Dr. Johnson.

Vol. 2.

TORONTO, FEBRUARY, 1843.

No. 2.



THE CULTIVATOR.

"Agriculture is the great art which every government ought to protect, every proprietor of lands to practice, and every inquirer into nature improve."—Dr. Johnson

TORONTO, FEBRUARY, 1843.

Now that labour is suspended in the fields, and will continue so for some months, the farmers will have an opportunity for reading and improvement of the mind. We suppose they will have no objection at this season, that we should occasionally give insertion to articles, that, strictly speaking, have no direct reference to agricultural improvement. For ourselves, we confess, we would consider it a very dry subject for constant reading and study. We do not think it necessary to remind Subscribers to this Periodical, how every, even the most simple works of agriculture, shall be executed. To do this would be ridiculous. We wish to submit for their consideration the latest improvements introduced in British agriculture, and selections from the newest works of men of science who have written on the same subject. We think it our duty to do this, and allow farmers to judge for themselves how far it would be expedient for them to act upon the suggestions of scientific men. We do not pretend to possess superior wisdom to men of the highest rank; and to farmers of the greatest talents and practical experience in the British Isles, who are now unanimously of opi-

nion, that the suggestions of men of science, on the subject of agriculture, are deserving the greatest respect and attention, and are well calculated to effect immense improvement in agriculture, by augmenting its produce, and diminishing the expense of arable culture. It would be wonderful indeed, if, in this age of new discoveries and improvements, the agricultural class alone should be incapable of introducing any improvement or deriving any benefit from science. We know perfectly well that we never can introduce machinery to execute much farm labour for us, nor do we think it desirable or necessary; but we are nevertheless convinced that vast benefit may be derived from science, well understood, and judiciously applied in practice. If we are so unfortunate as not to give satisfaction to our Subscribers we would regret it extremely, and would most willingly adopt any suggestions that would be likely to give more general satisfaction. So far as we had it in our power, we have invariably excluded from the columns of THE CULTIVATOR all wild theory and incredible reports of produce obtained from agriculture. Indeed we would consider it insulting to the understanding of our Subscribers were we to offer to copy for them the extraordinary articles we have seen published on these subjects. It is our constant desire to render THE CULTIVATOR useful and interesting to the Subscribers, and we think the most certain way for us to accomplish this will be, to submit what is new, for their consideration, and what is reasonable and expedient for their practice. We do not pretend to superior skill in agriculture, but from our long practical experience, we should be able to estimate the reasonableness and practicability of suggestions and proposed improvements, and we

shall to the best of our judgment only recommend what shall be reasonable and practicable.

STEAMING POTATOES.—The secret of steaming potatoes is very little understood, and rarely carried into full effect, although it is by many considered indispensable to the nutritious development of the vegetable. A late English paper describes the process as follows:—

"The whole mystery consists in suffering the steam to escape, and at the same time keeping the potatoes hot. When the cook throws off the water, under the jurisdiction of the cooking book, what is she to do next? The steam rushes out, and she places the vessel opposite the fire; but, fearful that the potatoes may cool in the meanwhile, she puts on the cover. Thus she undoes one process by the other, for the steam no sooner escapes from the potatoes, than being confined by the lid, it condenses rapidly, and falls back in water upon the vegetables. And thus, through the ignorance and obstinacy of our cooks, we are perpetually served with what are familiarly called wet potatoes—a sort of vague excuse, which helps to throw the fault upon the season or the gardener, or any thing or any body rather than the real culprit. The Irish peasant woman, wholly ignorant of science, but with instinctive sagacity, gets rid of the difficulty by the simplest process imaginable. Placing the vessel without the cover in a slanting direction opposite the fire, so as to hasten the process of steaming by the action of the external heat, she throws a napkin over the potatoes, which receives and retains so much of the steam as does not effect its escape, while it performs the equally essential office of preserving the heat to the vegetables below."

REVENGE OR FORGIVENESS, WHICH IS MOST NOBLE!—In taking revenge a man is but even with his enemy; in passing it over he is his superior.—Bacon.

WHEAT CULTURE.—PREVENTIVE OF RUST.

We have not unfrequently told our brother farmers previous to our commencing this publication, that a single *hint* gleaned from an agricultural periodical, was oftentimes worth more than ten times the small subscription that is usually asked for such a journal. It may be considered superfluous in us to enumerate the numerous and interesting experiments which we have made, to test the adaptation of the different modes of cultivating land for crops, practiced in England and the United States, to the Canadian climate and soil—experiments which we were induced to make from reading agricultural journals published in those countries. We may, however, briefly state the conclusion at which we have arrived relative to the important subject of preparing lands for fall sown wheat, and the mode of cultivation best calculated to prevent rust.

Probably our gentle readers will question the soundness of our judgment, when we state that the modes practiced in cultivating lands for wheat in Canada, are in nine cases out of ten the sole cause of the uncertainty of the maturity of crops. This, to a certain extent, may not be much a wonder of surprise, when the fact is taken into consideration that the mass of the agricultural classes are deprived of the aid of science to assist them in their onward career; nor is the wisdom and experience of the successful of their own class concentrated and published for their benefit; nor have they the inestimable advantage of perusing the suggestions made by the most experienced of their class of the British Isles. We mean to say that there has been little or no encouragement given either from the Government, the Legislature, nor large landed proprietors, to the dissemination of useful knowledge among the agricultural classes.

It may be almost unnecessary to state that it is of the utmost importance that the land designed for wheat should be thoroughly drained, either with the spade or plough, so as to prevent all possibility of injury to the plant from surface-water. We will confine our remarks, on the present occasion, more particularly to the proper application of manure.

The great cause to which we attribute the origin of the disease called mildew, so subject to the wheat plant in Canada, is the superabundance of unfermented vegetable matter applied to the soil.

There can scarcely be found one farmer in a hundred, that throws up his barn-yard manure in large heaps to ferment. Most of them suppose that the fermentation would destroy the fertilizing qualities of the manure—a fact, which we admit, to a certain extent: but it should be remembered that wheat is a very tender plant, and one which required only a few centuries since, much skill to acclimate to the English climate, and even now cannot be grown in any portion of Britain where the land is elevated three thousand feet above the level of the sea. The common plan of manuring summer-fallowed land in Canada, is to apply from fifteen to twenty-five double-horse waggon loads of manure per acre; the manure, as we remarked before, being generally in its crude state. When this plan is adopted, mildew nine cases out of ten follows, unless the land so manured is of an elevated position,

and dry, warm, and friable in its nature, by which means the gasses caused from the decomposition of vegetable matter would have passed away in the atmosphere, previous to the plant arriving at the stage at which it is most subject to the disease. Hence the opinion has gained ground, that light and sandy soils are more certain for wheat than clay soils, whereas the latter is the most certain, if plain common sense culture be practiced. Repeated experiments have proved that pure sand would not produce wheat to maturity, and they have also proved that clay divested of all vegetable matter, when exposed to the action of severe winter frosts would produce wheat to perfection. We would very naturally infer from such results, that soils impregnated with clay are the most natural to the wheat plant. But the great mistake in the management of such soils rests in the application of fermentative manures, by which means the soil becomes comparatively a hot bed, the gasses from which forces the plant into maturity by their attraction and affinity to unnatural agents in the atmosphere, which like too stimulating food given to the animal creation, overdoes nature, and thereby produces premature decay or disease. By the presence of a quantity of unfermented vegetable matter in the soil, the plant becomes glutted with food imparted to it, and the effect produced are like repeated heavy draughts of alcohol on the human system, which cause a bloated and deranged state of the natural functions of the organic system which is a sure forerunner of disease.

The remedy which we propose to prevent the disease, so far as human agency can be applied, is the application of fermented manures, and dressings of lime, marl, or charcoal or wood ashes if accessible; by adopting a system of clover culture in proper rotation with the wheat and spring crops; and by drilling in the seed, or causing the plants to be in rows by ribbing. Each of these subjects will form a separate article for our next number, and we hope our skillful and scientific farmers will correct us if we fall into error in any particular. Our object in expressing our views so frankly, is to bring truth and common sense to bear on the agricultural profession.—*Pub.*

We would again remind farmers to raise all the stock they can this year. Some change must take place shortly that will be favourable to us. It is useless for us to cultivate the inferior grains while we can only dispose of this grain for consumption in this country. If we raise over what is required to supply this consumption, the market will be glutted and it will be impossible to effect sales at any price. We have seen in the Montreal market, the last week of December, excellent oatmeal offered at seven shillings the 112 lbs., and the owners could not even obtain an offer of any price for it. We would have no objection to low prices if they were general for every commodity and for labour: but for every article the farmer has to purchase, the prices are as high as heretofore, including wages. At the present time, the expenses of taking to market, and selling hay and straw in Montreal, often amounts to more than those articles sell for. It is useless to farm on these terms. By raising stock much of the expense of labour will be saved, and before these stock are at maturity

some change for the better is likely to take place, if farmers will only be true to themselves. The land will also be improving while in pasture and in better condition every succeeding year for yielding crops, when the farmer will see a prospect of disposing of the produce of a crop to advantage. In any case, cattle will be more profitable than tillage. Beef and pork, if properly fattened and cured for exportation, will sell for a reasonable price in England. The great point is, that the Canada beef and pork may be able to establish a good character in the British market. Without this, there cannot be any hope of finding an advantageous market in that country—and so long as every trash of cattle are brought in here from the United States and slaughtered and cured for exportation, we never shall be able to establish a good character for our salted meat in the English markets. Let farmers and others consider this matter well. The produce of our dairies, if properly manufactured, would also be sure to find a market and reasonable prices in England. These are proper objects for our attention.

RUSSIAN STOVES.—We have seen statements of travellers respecting the Russian Stoves, which convinces us they might be very profitably introduced into Canada, if properly constructed—but their usefulness would altogether depend upon their proper construction. It is said they are extremely well adapted for economizing heat, and of course, must be a saving of wood or other fuel. The flue of these stoves is carried up and down so as to fill a space of about four feet square, and to the height of about ten feet; (but in large houses higher than this)—it is then carried off. Those stoves stand in the corner of a room, so that they can warm four rooms. The flues are built of hollow porous brick, which of course contain the heat. The external surface is of white glazed and ornamented tiles. The fuel is usually birch, and when the flame is entirely spent, a damper is placed on the flue, and the heated air thus inclosed diffuses itself through the rooms. The stove requires to be heated at most for an hour in the morning and another at night, to maintain a high temperature during the twenty-four hours. These stoves are in respectable houses, rendered highly ornamental, by the tiles of which the external parts are constructed, and by a variety of ornaments placed on different parts of them. If stoves of this description are found to heat the houses in Russia, they would certainly be fully sufficient to heat the Canadian houses.

The advocates of free trade have constantly accused the farmers in England, for not having cultivated their lands in the best manner, and if they did the produce would be increased one-half, and they would require no protection from foreign competition. If by more judicious cultivation the produce could even be increased a fourth-part, England would not require any foreign agricultural produce for the food of her population; and, in that case, what were foreign nations to give in exchange for British manufactures? Hence the arguments of free traders is only a fallacy. Their real object would be, we suppose, that the lands of the British Isles should remain uncultivated, and that these countries should be supplied with foreign agricultural produce in exchange for British manufactures.—

Thus the most certain property in Britain—the land would be rendered to be scarcely of any value, except to be pleasure grounds for manufacturing lords and their dependants. It will be the same case with landed proprietors in Canada, if the production of our own soil is not encouraged and protected. We consider British North America as a part and portion of the British Empire, and entitled to the same protection and encouragement as the inhabitants of the British Isles; and had we these advantages, we could raise a large produce, which would enable us to buy and pay for British manufactures, and be more certain customers than any foreign nation ever will be.

It is a remarkable circumstance of the horses and oxen of Paraguay (where both species have run wild and multiplied very rapidly), that while all those are domesticated vary considerably in colour, those that are wild have all the same colour: the horses a chestnut or bay-brown, the oxen reddish-brown on the back, and black on the rest of the body. The power of man to change the form of domesticated animals so as to make them suit his purpose to the best advantage is very great. By attention to breeding and feeding their original form and character may be astonishingly altered and vastly improved. In no part of the world has this improvement been carried to such an extent of usefulness as in the British Isles. There, indeed, breeds of horses, neat cattle, sheep, and swine are now brought to so profitable perfection, as to be very unlike the original breeds. Carefully selecting both male and female animals for breeding, and keeping the progeny of these breeds selected, and good food and management every way, have effected these advantageous improvements in every species of domesticated animals in Britain.

The watering of the horse is a very important, but disregarded portion of his general management. The kind of water has not been sufficiently considered. The difference between what is termed *hard* and *soft* water, is a circumstance of general observation. The former contains certain saline principles which decompose some bodies, as in the curdling of soap; and prevents the solution of others as in the making of tea—the boiling of vegetables, and the process of brewing. It is natural to suppose that these different kinds of water would produce somewhat different effects on the animal frame, and such is the fact. Hard water freshly drawn from the well, will frequently roughen the coat of the horse unaccustomed to it, or cause gripping pains, or materially lessen his power of exertion. The racing and the hunting grooms are perfectly aware of this, and so is the horse, for he will refuse the purest water from the well, if he can obtain access to the running stream, or even to the turbid pool. Where there is power of choice, the softest water should undoubtedly be preferred.

The temperature of water is, of far more consequence than its hardness. It will rarely harm if taken from the pond or running stream, but its coldness when recently drawn from the well has often been injurious. It has produced colic, spasms, and even death. It should therefore be exposed for some hours, if in summer, in the stable or some tank; and in winter, it should be heated to the proper temperature.

There is often considerable prejudice against the horse being fairly supplied with water. It is

supposed to chill him, to injure his wind, or to incapacitate him for hard work. It certainly would do so if immediately after drinking his fill he were galloped hard, but not if he were suffered to quench his thirst more frequently when at rest in the stable. The horse that has free access to water, will not drink so much in the course of the day, as another who, to cool his parched mouth, swallows as fast as he can, and know not when to stop. When on a journey, a horse may with perfect safety be more liberally supplied with water than he generally is.

PAGE'S PORTABLE SAW MILL.

(Continued from our last.)

Mr. J. S. Selby, in a letter to the publisher of the "American Farmer," says:—

"Mr. Page has put an addition to the machine, which is very important. It runs the log back immediately after the plank is cut, and then is ready to go forward to cut another plank; after the alteration, we sawed a green poplar log, 15 feet, which made 310 feet of plank. There were several gentlemen here at this time to see the performance, and several cuts were made by time, which were as follows:—One cut was made 15 feet long and 12 inches wide, in 3 minutes and 40 seconds, equal to 275 feet per hour, or 2,750 feet per 10 hours; one cut was made 15 inches wide, by pushing the horses, in 3 minutes. An oak log was brought to the saw by a neighbour of mine, (which, by the way, was seasoned and very hard,) 9 feet 3 inches long; it was sawed into 7.8th plank, at the rate of 24 minutes for each plank; being 244 feet to the hour, and 2,440 feet for ten hours." "I am fully satisfied that with four horses, one man, and a boy, it will cut 1,500 feet per day, without pushing the horses, or driving them beyond their usual work. The machine attached for shingles is very simple and cheap, and any common hand can work it, and make perfect shingles. I am of the opinion that they can be worked to a great profit in manufacturing lumber for market. After cutting the timber for a large building, 38 by 54 feet, and 2 stories high, it not having been out of repair the whole time, although worked by common hands; I am satisfied it will be durable, and not liable to get out of order."

Mr. John Watchman, of the city of Baltimore, says, in the "Farmer,"—

"I consider it a valuable acquisition to our country, and will be of vast importance to large districts of country. I think it will fully answer the purposes of the inventor, and have backed this opinion by purchasing one for the use of my establishment, deeming Page's decidedly preferable for every purpose for which it is intended. As the machine can be examined in operation in this city, I invite public attention to it."

The Rev. Henry Aisquith, of Anne Arundel county, Md., says:—

"I have frequently witnessed the operation of Page's Circular Saw Mill, by horse power, at Mr. Selby's farm, near Annapolis. I have been so much pleased not only with its operations, but with the simplicity of its construction, and so satisfied of its usefulness to every farmer who has much timber, that I have ordered one for my own use. The Horse Power, also by Page, I consider one of the best; being simple and durable, and less liable to get out of order than any I have yet seen. As the best recommendation I can give, I have ordered one for my own use."

Major R. I. Jones, of Annapolis, under date of Feb. 7, 1841, says:—

"On this day I rode to Mr. J. S. Selby's farm, for the purpose of seeing the operation of Mr. George Page's Horse Power, to which is attached a Portable Saw Mill. Four horses and mules were worked, and during the time I staid there was no change of horses. A log of green poplar, 15 feet long and 12 inches wide, was sawed into plank at the rate of about 3 minutes and 40 seconds to each plank, equal to 275 feet per hour, or 2,750 feet for 10 hours' work." "A railway for

the log to travel on forward while cutting, and to back it for the next cut, worked admirably indeed. The whole machine is handsomely constructed, and worked with great ease, the horses not more pushed than would be necessary to work a thrashing machine. This horse power (Mr. George Page's) is far superior to any I have ever seen. It is simple in its construction, at the same time is powerful enough to attach 8 horses to it, if it were necessary. There can be no question, that with the attention of any person accustomed to the manner of working it, with timber of good length, say 25 to 30 feet long, and from 10 inches to 2 feet diameter, it will turn out at least 2,000 feet for a day of 10 hours' work; it can certainly be made to cut 3,000 feet per day. I am assured it will make from 2 to 4,000 shingles per day, and those perfectly true and ready to lay on the roof. There can also be attached to this power machinery for boring and morticing posts, pointing the rails, and cutting the tenons with as great precision as by hand. This power will answer for every use a farmer can wish for on an extensive farm—for thrashing the grain; also a mill that will grind meal at the rate of 5 bushels in the hour; and, by applying a Corn Sheller, will readily get out 1,000 bushels of corn in the course of a day. What more does the farmer want?"

The following testimonial of the operation of this machine, in Louisa County, Va., appeared in the Richmond Whig, of April 30th:—

"We, the undersigned subscribers, have this day examined the Portable Saw Mill, drawn by four horses, lately put in operation by Mr. George Page, of Baltimore, at the Victoria furnace, in Louisa county. It was sawing rough pine logs, and it cut 300 feet per hour. The plank was exceedingly nice, smooth, and straight. The oak timber it had cut before we examined it, was equally nice.

HUGH GOODWIN, JUNR.
CHAS. B. COSBY,
G. B. TAYLOR,
P. BOXLEY."

PAGE'S PORTABLE STEAM SAW MILL.

This mill, with all its fixtures complete, ready for manufacturing lumber, with a steam boiler, or power equal to 10 horses included, costs \$3,000.

The following specification will show the items comprising the gross sum of \$3,000, as above named, together with the price of each, by which the reader will perceive that they exceed that amount, viz:—

Steam-engine and boiler of 10 horse power, portable,	\$ 1200
Saw mill, 12 feet carriage and 24 feet ways, large and strong, with a 48-inch circular,	500
Two pair of lumber wheels, for hauling logs, and removal of engine and boilers,	250
Bay cant-hocks, files, sets, &c.,	50
Two hand-carts, for removing lumber when sawed,	100
Extra length of carriage 25 feet, 50 feet ways,	50
Bench for sharpening files, with saw shaft,	50
Fixtures for cutting wood,	50
Six pair extra head blocks,	100
Post Morticing machine,	60
Upright roller for long plank,	100
Bands,	100
Elevator, with cups on buckets,	100
Windlass, with chains and fixtures,	175
Extra Saw,	133
Gross amount,	3,050

The Mill without steam power, of large size, to saw 12 feet long; (\$3,000 for all extra lengths over, for extra carriages for preparing and raving 3 or more logs at a time; by which, while one log is being sawed the others may be made ready for that operation), \$500.

For two cars for conveying lumber from the Mill, \$100 per pair, or \$50 for each.

For extra head blocks, \$30 per pair.

For bands for propelling, 55 cts. per square foot.

AGRICULTURAL REPORT FOR CANADA EAST.

SINCE our last Report we have experienced the extremes of the lowest and highest temperature, that has been known to occur in a Canadian winter for many years past. On Monday the 2nd of January, we had it about 24 degrees below Zero; and for the last week, it has been warm enough for April, so much so that almost all the snow has disappeared from the fields, and the ice has become unsafe for passing upon in many places, were, previous to this thaw, there was firm bridges formed. In front of Montreal there is a channel open in the river, and the ice that is formed is very bad. Indeed it will require very cold weather to produce a good and safe communication to Laprairie this winter. These thaws are not favourable for this country, particularly at this season of the year. It interrupts all communication between the country and our markets, and between one section of the country and another. Unchangeable winter for four months, with a good covering of snow on the lands, will always be the most favourable sort of weather for Canada. Soft open winters, would not be the most suitable for the present circumstances of the country. We should not, therefore, repine at the severity of our climate, for if more moderate, it would not be so favourable for this country, until her population and wealth are much greater than at present. Neither our agriculture or commerce are in the most flourishing state of prosperity at this moment, nor do we see any great probability of improvement immediately in either. We are not in possession of what is required to make both prosperous—namely a large and valuable produce created in the country, which we could give in exchange or in payment of imported goods. It is useless to import goods if the country has not means of paying for them. The merchant imports goods and sells them on a credit, and these goods may be retailed out by country merchants to the inhabitants, but when the time of payment arrives, there is not wherewithal to discharge the debt. A few bushels of barley, oats, and peas, that a farmer may have to dispose of will not do much for him at present prices, and a part of what he receives for these he pays away for United States flour for his own food. All that the farmers of Eastern Canada have to dispose of now is consumed in the country. It is not as heretofore, consumed in manufacturing lumber for exportation. Where lumber is manufactured at present, the food consumed by the labourers is chiefly of foreign production. We do not say that our agriculturists are suffering more now by the depression in business, than other classes, but we say that the general depression has been produced, not by agriculturists, but by the neglect and mismanagement of those who had the charge of our interests in their hands. This country has suffered in consequence of not having produced wheat to any extent for the last seven or eight years, and not attempting to produce any substitute for wheat. This non-production has been the true

cause of all the evils now felt by all classes of this community—and no efforts have been made to remedy these evils. All that has been done was to resort to a foreign country—the United States—to purchase their produce when it could not be had here for exportation. But it is impossible that this trade could make up to this country the deficiency in the value of her own production. No: We take upon us to say that no business class of this community ever can be permanently prosperous, if we do not create annually a larger and more valuable produce than we do at present. The merchant who imports goods must pay for them, but if he sells them to Canadian consumers, it is only by a produce raised here they can be paid for to the merchant. If we refer back to the year of a large export of Canadian grown wheat, (we believe it was 1830 or 1831), we shall find it was one of general prosperity here with all classes; and we never experienced so prosperous a time since. We think it our duty when writing a report of this nature, to submit our humble views of the state of our agricultural affairs. If our views are incorrect, we would take pleasure in being set right and in acknowledging our error. If we could be instructed in any other business whereby we could obtain a more certain and easy subsistence than by agriculture, we have no particular inducement just now to continue in that business however partial we may have been to it. Low prices for produce, and high wages for the labourers who produce it, must be a very unprofitable business for the farmer. All that a farmer has to purchase is as high as in years past, while what he has to sell does not bring much more upon an average than half the price of the few years last past. We can say, from experience, that we have upon several occasions this winter and last fall, sold hay in the Montreal market for less money than it cost us to bring it to market, and pay the expense of weighing, turnpike, &c. This however was only when it remained over unsold to a second day, and when impossible to sell it the first day at any price. Were we to apply our hay or pasturage to fattening cattle for the Montreal market, we would incur just as much risk of losing the whole of our hay and pasturage, in consequence of our market being open to foreign supply from a country where they feed sheep for their wool and fat, and feed their hogs on the mutton. If we had our own markets secured to us, we could not complain of prices however low; but we are now placed in an unnatural position, by a free trade into the country, and a restricted trade out of the country—so far as regards the United States. Instruct the ignorant, and encourage and protect the producers of Canada, and if the general circumstances of the country will not soon improve, it is not fit for the residence of man. We only require to be secured in the possession of our natural advantages to insure us a more prosperous condition for every class. The experiment is, at least, deserving a fair trial. The great evil of our present position is, that we do not create any surplus produce in Eastern Canada, to enable us to purchase what we require of foreign production. The small amount of value that is raised is only to supply a part of our home consumption, and there is scarcely any part exported. We would have no objec-

tion to a home trade provided it was sufficient to answer our wants. There could not be any state better for this country than to be able to import largely, and pay for all these imports in cash if we could procure it. But as this is not possible, we cannot import largely and pay for our imports, unless we produce abundance and dispose of this produce to customers out of Canada. Every man may have his own way of accounting for the present depression in all branches of business and industry in Canada, but we humbly conceive the true cause of it is, the poverty of the country, in consequence of a deficient production, and until this is remedied, it is vain to expect much improvement in our affairs. It is by the produce of this country that the inhabitants are to become rich and prosperous, not by the produce of a foreign country. This matter is of more consequence to all classes than they are aware of. Farmers will have to give up purchasing imported goods, if they cannot pay for them. In that case they must adopt the plan of manufacturing for themselves from their own raw produce of wool, flax, &c. This must be the inevitable consequence, unless some change for the better soon takes place. We have some idea of the real state of the agricultural class generally at this moment throughout the country, and we believe that for many years past, their funds in cash have not been reduced so low as at present. How could it be otherwise, when United States beef is selling in our markets at one penny per pound; Sheep, at half a dollar the carcass, and other things in proportion; Oats from 10d. to 1s.; Barley, 2s. to 2s. 6d. and Peas at 1s. 8d. to 2s. per minute; Hay from 12s. 6d. to 17s. 6d. the 1,600 lbs.; and Straw from 5s. to 10s. the 1,200 lbs. That produce should be so low as these prices is not advantageous to any class of this community. We never would wish for very high prices, neither would we wish they should be so low as not fairly to refund the expenditure in their production. We have observed this year the great inconvenience of narrow snow roads. When a law was passed enforcing an alteration in the construction of winter carriages, the same law should have provided for winter roads of sufficient width. Twelve feet wide is the least they should be to afford accommodation. It has been almost impossible to travel upon the roads this year, with two horses abreast, in case of meeting other carriages: indeed, it is with great difficulty that single-horse carriages can pass each other, even upon some of our turnpike roads. When the law respecting winter carriages was before the Council, we took the liberty of suggesting the necessity of the law providing that the roads should be twelve feet wide; and we are now fully convinced that one law was as necessary for us as the other. It is as inconsistent to have narrow roads for our winter carriages as they are constructed now, as it would be to build a stable for a horse or ox that would have the door too small for either to enter. The old Canadian trains—which we have no desire to see again, were the only suitable carriage for narrow roads, as they might rub against each other without catching or breaking. Those who contract to keep the turnpike roads in order during the winter, should be compelled to track them and make them passable by one foot wide. This would be a good example for the country

roads. But so long as the turnpike roads, upon which tolls are paid, are not made of sufficient width, the toll-payers justly complain, and the example is a bad one for other roads kept in order by the proprietors at their own charge. Good winter roads are so convenient and comfortable, that every means should be adopted that would insure them to us. We regret to say, that the narrow roads is one cause that we have not so many double sleighs upon the road this year, and they would be the most certain means of making good winter roads without any expense.

Cote St. Paul, 15th January, 1843.

UNBURNT BRICK HOUSES.

Houses properly constructed of this material are warmer, more durable and also cheaper than stone, and are destined to take the place of the log shanty, as well as the more expensive wooden walls. They are admirably adapted to the peculiar circumstances of Canadian settlers, as they neither require much skill nor expenditure to erect them. Those who profess to be the best acquainted with the subject, are of opinion, that they are best calculated for Cottages or buildings that are not designed to be carried higher than 15 feet. The great difficulty in high walls built with mud-brick is that the rough casing or outer coat of plaster is subject to fall off, the real cause of which has been heretofore overlooked. This falling off proceeds from the fact that the ingredients composing the plaster are not properly compounded and tempered so as to cause the surface to be impervious to water. By examining plastered walls minutely, there may be seen small apertures, which act as so many receptacles to receive the water. The difference between burnt and unburnt brick, is simply this, the one becomes soluted the moment it comes in contact with water, and the other admits the moisture, without becoming dissolved. Clay or unburnt brick houses are much more wholesome for either man or beast, than either burnt brick or stone, in consequence of their having less affinity to moisture. Burnt brick are extremely porous, and each brick freshly taken from the kiln, will admit one third of its weight of water. From these facts, then it would appear that the only difficulty in the way, in bringing mud or unburnt brick houses into general use, is the liability of the plaster to fall off. We feel satisfied that two very successful plans might be practiced, the one to build a veranda around the whole building, and the other by compounding the ingredients, which compose the plaster so as to form a close solid and impenetrable surface. A plaster may be formed with an equal proportion of pure clay, sand, ashes and lime, thoroughly incorporated together, and mixed with a portion of fresh bullocks blood, equal to one half of each of the above ingredients. The blood should be well stirred to prevent it from coagulating.

To those who have already built and are apprehensive that the plastering exposed to the action of the changes of weather, will not prove durable, we advise them to make a composition of the following materials, and apply it while hot on the outer surface with a common painter's brush: To five gallons of water, add five quarts of Liverpool or Rock salt, boil and skim, then take six quarts of unslacked lime, slack and soft it, put it into the hot brins; also, 1 lb. of allum, $\frac{1}{2}$ lb. of copperas, $\frac{1}{2}$ lb. pearlash, the last to be

added gradually, then add four quarts of fine pure sand, mix the whole together and apply two coats as above. Any colouring matter may be added to give the shade required. If this process be properly performed it will make the wall have the appearance of slate and be remarkably durable.

The mode of making the bricks is very simple. The first step is to make a clay pit in an oval shape, and fill it with pure clay, blue is the best if procurable, as soon as this is done, water should be copiously applied, and after the clay being saturated with water 24 hours, a yoke of oxen may tread or temper it, and during this operation short straw must be applied at the rate of four common bundles to a hundred bricks. The bricks are moulded quite convenient to the pit, by simply placing the mould on the ground which should have an even surface, and filling it with the tempered material with a common three pronged fork—by drawing a straight edge board across the upper surface of the mould, and raising the mould the brick is turned, which must remain on the spot until it becomes sufficiently dry to turn on its edge. When they are dry enough to move without spoiling the shape, they may be stacked up to season, and should be secured from the wet by broad boards.

In constructing this style of houses the two following particulars must be invariably observed, viz:—The erection of a substantial stone wall, at least two feet above the level of the ground, and a hip or cottage roof projecting over each side, of the wall not less than thirty inches.—Another very important feature is to have a quantity of bond timber interspersed through the wall consisting of one inch and a half, or two inch planks. To give our readers some idea of the costs of such walls, when they are given out by contract, we will, illustrate the subject by mentioning the following facts. Mr. William Beason of the village of Yorkville, one mile north of this city, has built a very great number of these buildings, and has invariably taken them by contract at the rate of £1 per hundred brick, including making and laying, the bricks being 6 inches thick, 12 inches wide, and 18 inches long. He built the last summer a number of houses of various sizes, one of which, was for a farmer, by the name of Robert Maharley of the township of York, the dimensions being 28 feet wide by 38 feet long and 14 feet high, exclusive of two feet of stone wall for the foundation. The number of bricks in the wall, windows excepted, were 2218, which at one pound per hundred brick, would equal £22 10 0. There was 11 twice of stone required for the foundation, which cost 6 shillings per twice for laying into wall, about one half the quantity of mortar is used for plastering on mud-brick that is required on lathing, and the plasterers will do the work for thirty per cent less than on the latter. The chimneys and inside walls are very frequently made of the same material, but the bricks are much smaller, any size may be used, but the most convenient and expeditious size for building is 6 inches thick, 6 inches wide and from 12 to 18 inches long—the bottom and top of the chimney have of course to be built with burnt brick or stone. The only cement used for laying up the brick, is an equal proportion of pure clay and sand mixed to the consistence of mortar.

If further information be required by any who may intend to build, by making the enquirer through our Journal, we would be most happy in answering such enquiries.—*Pub.*

WEIGHT OF OXEN.

The parts of an ox to which the term *offal* is usually applied are the head and feet, the tallow, the hide and horns, and the entrails.

The fat which grows internally is mostly termed tallow, and is generally considered to be of the same value, weight for weight, as the flesh of the fore-quarters; and so likewise is the hide. These and the other parts, termed offal, are commonly regarded as forming about one-fifth of the value of the animal. When beef is said to be sold at a certain price *sinking the offal*, the meaning merely is, that the whole price of the animal is reckoned upon the carcase, alone; hence, when beef is sold at a certain price *sinking the offal*, that price is more than if it were sold without including in it the price of the offals.

The portion of the ox which is used for food, exclusive of the offals, is usually termed the quarters, because the animal on being cut up, is divided into four parts or quarters. The most esteemed parts for food are the hind-quarters. These weigh something less than the fore-quarters; though the more perfect the form of the animal is, the more nearly do the fore and hind quarters approach in weight.

Practice enables persons to judge of the weight of animals by the eye alone; but it is convenient to be able to ascertain the weight by measurement. This may be done with considerable correctness in the following manner:—when the animal is standing in a natural position, measure his length in feet from the foremost upper corner of the shoulder-blade in a straight line to the hindmost part of the rump, then measure the girth or circumference immediately behind the fore-legs; multiply the square of the girth by the length, and this product by 238, which will give the weight of the quarters in stones of 14lbs. each. This rule has been arrived at by regarding the body of the animal as a cylinder, and determining, by experiment, what proportion on an average, the actual weight of the quarters of animals bears to the cylinder,

Another method of ascertaining the weight of fat cattle is, by weighing when alive, one half of the live weight may be considered an equal to that of the four quarters; but the case of fully fatted animals, a more correct result would be arrived at by multiplying the gross weight by 605. This rule has been arrived at, by determining from the average of cases, what proportion the dead weight of the four quarters is found to bear to the living weight of the animal.—*Lox's Agriculture.*

In case of weighing animals while living, they should be weighed while they are regularly fed. The live weight of an animal which at regular feed, must be very different from what it would be if weighed after a long journey, and irregular feeding. These circumstances should be taken into consideration in weighing cattle while alive, as must necessarily have a very material influence in determining the exact weight of beef, tallow and hide, which a live animal will produce, when slaughtered. We once weighed a well fatted cow—live weight near 1300 pounds—dead weight near 900— including four quarters, tallow, hide, head, heart and feet. This cow was drove about four miles from her stall provision to weighing, and immediately weighed on arriving at the scale.

EDUCATION.

(Continued from our last).

The persons, indeed, whom nature has qualified to feel the enjoyments or receive the cultivation of knowledge, may not be a tenth of the entire population; but it is by them that the fountains of public welfare are opened, and on their exertions that the maintenance of public happiness depends. If the aphorism of Lord Bacon be true, that knowledge is power, the extension of knowledge continually augments the means of beneficence which man can confer upon man.

The elevation also of the most intelligent of the middling or lower orders to the highest stations of society, operates as a continual incitement to the poorer classes to emulate their example. Few may be successful in the attempt; but the efforts made by many improve their habits and their usefulness, and render them better members of those humble walks in life from which they are unable to ascend.

If the enjoyment of study could be made universal, and intellectual cultivation rendered the means of weaning men from the grosser pleasures of sense, the warmest anticipations of the friends of public instruction would indeed be realized; but, at the same time, the lower orders would be unfitted to discharge the most important duties which society requires them to perform, and the great machine of civilized life would stand still, for want of persons to attend to the coarser parts of the engine. The wisdom of Nature has confined the gift of intellectual ability to that proportion among mankind whom the public interest requires to be employed in intellectual pursuits, and not suffered either the happiness or the usefulness of the great majority to be disturbed by desires or habits inconsistent with their humble but not less important duties.

Because a part, however, are alone qualified for intellectual exertion or enjoyment, it does not follow that the means of instruction should not be afforded to the whole people. It is impossible to say *a priori* in whom the power to cultivate or the taste to appropriate the several branches of literature or art are to be found; and unless instruction is generally diffused, the greatest abilities, the most useful powers may be lost to the state. Of the seed which the husbandman sows, the greater part is choked before the powers of vegetation expand; but from the few which take root the whole sustenance of mankind is derived.

Finally, the education of the people is the only method of diffusing generally the blessings of religious instruction. Whatever may be thought of the possibility of making the great majority of mankind appreciate the pleasures of scientific acquirements there can be no doubt, that by the force of *religious emotion* the most extensive public effects are to be produced. In truth, the only feeling which permanently effects all classes of society is the influence of religion—because it alone addresses itself to the hopes and fears which are common to all. Unlike science or philosophy, which speak a language interesting only to a limited class, its precepts are universally understood, and the necessity for its consolations felt alike by the humblest and the greatest of mankind.

From the earliest times, the experiment had been made upon the widest scale, of the influence of education upon a certain portion of society, without its ever having been found capable either of arresting the progress of national degradation or stopping the corruption of the very classes among whom it prevailed. The higher ranks among the Greeks and Romans were not

only well but highly educated; but nevertheless it was they who corrupted the lower—and long before the ignorant masses were contaminated, corruption, sensuality, and every species of profligacy had utterly poisoned all the sources of public welfare in the dignified portions of society. The same fact is exemplified in every page of European history.

With whom did the corruptions, which brought about the French Revolution, originate? Was it among the millions of ignorant, laborious men who toiled in humble life, not one in fifty of whom could read; or among the thousands of the privileged classes, who were all highly educated, refined, and cultivated? No person will say that their education was based upon religion, for they were, probably, the most infidel generation that ever existed upon the face of the earth, and we have seen to what their intellectual cultivation led. If any person would wish to know to what, in a highly civilized and opulent community, the general extension of simply intellectual cultivation will lead, he has only to look at the books found at Pompeii, ninety-nine hundredths of which relate exclusively to subjects of gastronomy or obscenity; or to the present novels and dramatic literature of France, in which all the effects of genius, and all the powers of fancy are employed only to heighten the desires, prolong the excitement, and throw a romantic cover over the gratification of the senses.

Experience, the great test of truth, tells us, in language which cannot be misunderstood, that hu nature in all ranks is the same; that knowledge is power to all, but wisdom only to those who use it rightly; and that, so far from mere secular education being an antidote to evil, or a preservative against the progress of social corruption, it has the greatest possible tendency to increase both, if not restrained by the force of moral precept, and sanctified by the simultaneous spread of religious instruction.

The capital error of the secular education party, in this matter, is the opinion that the main end of education should be to communicate, or give the means of acquiring knowledge; whereas its real and most important object is, to form the habits and elevate the character. This is the vital point of distinction between the two parties.

Scotland is the great example to which the advocates of secular education constantly point, as illustrating the effect of intellectual cultivation upon the character of mankind, and boundless have been the eulogiums pronounced upon the moral virtues, steady character, and provident habits of that once held the most intellectual portion of the European population. Doubtless, as long as Scotland was an agricultural or pastoral country and education was based upon religion—when the school-house stood beside the church, and both trained up the same population, who afterwards were to repose in the neighbouring church-yard—Scotland was a virtuous country, and its population deservedly stood high in the scale of European morality. But since manufactures have overspread its great towns and a population has grown up in certain places—educated, indeed, but without the means of religious instruction and almost totally destitute of religious principle—the character of the nation, in this respect, has entirely changed: and it is a melancholy fact, that the progress of crime has been *more rapid in that part of the British dominions, during the last thirty years, than in any other state in Europe.* It appears from the evidence laid before the Combination Committee, last Session of Parliament, that the progress of felonies and serious crimes in Glasgow, dur-

ing the last sixteen years, has been, beyond all precedent, alarming, the population having, during that period, advanced about seventy per cent., while serious crime has increased FIVE HUNDRED per cent. Crime over the whole country is advancing at a very rapid rate, and far beyond the increase of the population. In the last twenty-four years crime has increased THIRTY FOLD."

We have given a long extract from the work of this very talented writer, but the whole chapter he has published on this subject is highly interesting and well deserving of consideration. From the statistics he has given, it appears perfectly manifest, that education, if not based upon religious instruction, is not likely to increase the virtue and happiness of a people. We shall refer to this subject again, and give some interesting information of the results of secular education in Prussia, Sweden, and other states. It is from the results produced by any system, that we are to judge of its utility, and it will also teach us the improvements required in the system.

AGRICULTURAL IMPROVEMENT BY THE EDUCATION OF THOSE WHO ARE ENGAGED IN IT AS A PROFESSION.

BY WILLIAM EVANS,

AUTHOR OF THE "TREATISE ON AGRICULTURE," &c.—LETTER II.

What are the advantages that are likely to result, from the useful, practical, and general education of the agricultural class?

To this question, I reply, that an improved system of agricultural management would inevitably be introduced, by which it would be possible to augment the produce and returns obtained from the cultivated land, and stock in these Provinces, to double what they are at present, and in many instances, much more; and I am firmly persuaded, that no material improvement will ever be effected in the agriculture of the Canadas, until farmers do become usefully and generally educated. I have not arrived at these conclusions, without giving those matters much consideration. I know too well that farmers, above all other classes of men, have an antipathy to change, and object to innovation, and that there is no means of removing their prejudices, but by education, which would enable them to examine thoroughly the changes that would be recommended to their notice, and look steadily at all the bearings of questions that would affect their interests. They would then, from conviction of their own minds, adopt with alacrity all measures that would be likely to augment the means of happiness of themselves and their families. It is then that the natural fertility of this fine country would be taken full advantage of; the fields would be well cultivated, and yield abundant crops; the flocks and herds would be judiciously chosen, well managed and fed; good and ample means of internal communication would be provided. All matters in any way connected with agriculture, would clearly exhibit the industry, the skill, and intelligence of those engaged in husbandry, and raise the yeomanry of these Provinces to that high station they are entitled to occupy in this community. If education can produce these results, and no doubt it would, how highly should it be desired and prized by those engaged in agriculture.

It is true, that agriculture may be practised by *imitation*, without any knowledge of its theory; but in this case it will generally remain stationary. The mere routine practitioner cannot advance beyond the limits of his own particular experience, and can never derive instruction from such accidents as are favourable to his object, nor guard against the recurrence of such as are unfavourable. He can have no recourse for unforeseen events, but ordinary expedients; while the educated man of science resorts to general principles, refers events to their true causes, and adopts his measures to meet each case.

According to "Paley," any man who keeps possession of land, is under moral obligation to cultivate it to the best advantage. He expresses himself thus:—"But it has not yet entered into the minds of mankind to reflect, that it is a duty to add what we can to the common stock of provisions, by extracting out of our estates the most they will yield; or that it is *in sin* to neglect this." In reference to education, the same excellent writer, says:—"In civilized life, every thing is effected by art and skill. Whence a person who is provided with neither (and neither can be acquired without exercise and instruction) will be useless: and he that is useless, will generally be at the same time mischievous to the community, so that to send an uneducated child into the world, is injurious to the rest of mankind; it is little better than to turn out a mad dog or wild beast into the streets." This is strong language, and on this subject, from a High-Churchman, and a man who certainly was of first rate abilities, should have great weight. He did not apprehend that education would have a tendency to unfit men for their station in life, whatever it might be.

Dr. Spurzheim said, that those who are versed in history, or understand the law of Christian charity, will join those who contend for the benefit of an instruction adapted for every class of society, and that whoever thinks it right to cultivate his own mind, cannot with justice desire that others should remain ignorant. Indeed, I would go further and say, that those whose education was provided for in youth, and who are now capable of duly appreciating its benefits, are in *duty bound* to do all in their power to extend the blessings of education to every human being, or at least, to all the uneducated of the same community of which they are members. I expect to be able to establish the fact clearly, that a *judicious* education will diminish crime, and increase the means of human happiness; and if I am able to do this, it is a matter of the first importance in every country, that the inhabitants be *usefully* and *generally* educated; and *more particularly* the agricultural class, who, I maintain, will receive more certain benefit from an education that is suitable for them, and incur less risk of injury to their habits and usefulness, from this education, than any other numerous class of this community. There is much more danger that some of the educated inhabitants of cities and towns would become idle and useless members of society, than that properly instructed agriculturists should become so. But in any situation, the education that will not be productive of good to the individual, must be defective. "The most enlightened are the most reasonable—the most reasonable feel more than others the real interests and motives they have to be virtuous. Without the study of nature, man can never know the relation he bears, nor the duties he owes to himself and others—deprived of this knowledge, he can have neither firm principles nor true happiness. The most enlightened are the most inte-

rested in being the best men"—however lamentable it may be, that we do not find them the best in every case. But we shall, among the uneducated class, discover a much greater lack of virtuous principle and true enjoyment, in proportion, than among the properly educated.

Mind was given to man for cultivation, and the means of cultivation is by education and reading. Like the soil of our mother earth, the more *judiciously* it is cultivated, the more abundant good fruits will be produced for the benefit of the individual and of society. There cannot be a more just comparison made, than of an uneducated man, to an ill-cultivated farm; and a *usefully* educated man, to a judiciously cultivated farm. In the first, the natural product, whether good or bad, is allowed to keep possession, to a certain extent, both in the mind and in the soil, and the general product of what is useful must necessarily be scanty. In the last, on the contrary, no plants in the field, or ideas in the mind, are suffered to remain or take root, but such as are useful to man, and these are carefully cultivated, and the produce of *good fruits* are most abundant.

If these results do not always follow, it will be from the intervention of accidental circumstances, and will not prove the general principles to be incorrect. There may be many defects in the mode and extent of education. So far as the education at public schools, it is not, in my humble judgment, necessary that a young farmer's education should be carried further than would be practically useful—but it ought not to stop short of this point. A judicious cultivation of the mind is necessary and proper for the agriculturist; but, to proceed further, will in most cases, be neither convenient nor profitable, more than it would be to expend much money and labour in over cultivating a farm that would not yield adequate returns, and which is a very possible case. I shall refer to this subject in a future number.

It is a great mistake to compare the agricultural classes in British America generally, to what are termed the *peasantry* of other countries, who are mostly persons that have little or no property, more than what they receive for their daily labour, or those who occupy a few acres of land as tenants, paying a high rent for it. On the contrary, the rural population in these Provinces are *proprietors* of ample farms, stock, implements of husbandry, &c. &c. There can be no question of the necessity that exists, that persons circumstanced as the latter class, should receive a suitable education. They cannot exercise their profession to due advantage without being thus qualified; and the loss to this country that is occasioned by the absence of a judicious system of agriculture, and a consequent scanty produce, is enormous.

In the British Isles, within the last fifty years, the produce obtained from agriculture has been greatly increased, and this is to be attributed solely to the improved cultivation and management of the soil and stock, introduced by educated men. The state of property in these countries will insure the advance of improvement in agriculture, though it should not be through the suggestion of the occupying rent-paying farmer. It will be the interest of the great landed proprietors, to proceed with experiments on land and stock, so as to make them as profitable as possible, in order to maintain the rent of lands, &c. on which their annual income chiefly depends. It is not so in British America, the farmers being the *proprietors* of the soil they occupy, they must rely upon themselves for its judicious cultivation. It is for them to judge whether

they are competent to do this without receiving a useful and practical education.

To any one acquainted with the real circumstances of the Irish poor (and the Report of the Poor Commissioners made lately to the British Government, will explain their true state), it would not be matter of surprise that these wretched poor people should be uneducated; but I have known in Ireland, poor men who worked for a miserable daily wages, and who could not obtain one pound of butchers' meat for their family in six months, endeavour to pay a few pence monthly for their children at a country-school. They felt their own wretched condition, and expected by giving their children education, which they had not themselves the benefit of, that they might be able to make some improvement in their condition. I admit, that the children were not much benefited by these schools, because they seldom had properly qualified masters, and no good general system of education established for the country population up to the time I left. I introduce the circumstance, however, to show that these poor people were willing to deprive themselves of a part of what was necessary to support existence, in order to give education to their children, when they had no more to give them. They were incapable of judging whether their children were educated in such a way as to make it useful to them in after life, and hence it happened that in most cases the actual benefit was trifling, for the want of proper superintendence and encouragement. In that country, beyond all other countries in Europe, the poor population were most egregiously mismanaged, and poverty and suffering to an appalling extent, has been the consequence for centuries, and continues up to the present day.

It might be expected that the example of well-managed farms, of which there are several in this country, would be productive of much good. There are many causes which prevent this. As I before observed, strong prejudice exists among farmers against new modes of cultivation and management of stock, that will not be readily got over unless by the diffusion of useful education. It is this that will enable the farmer to introduce those prudent changes that will be profitable, and will not allow him to expend labour that is not necessary on cultivation, or capital, on what may be showy rather than profitable.

If a man of capital should occupy land and farm it, more for amusement than profit, he may improve the soil to the highest possible extent, produce abundant crops, and have fine stock. But his neighbours who observe his progress, should they have good cause to imagine that the expenditure exceeds the returns obtained, will receive no benefit from such example.

What may be considered by some to be the most improved system of agricultural management cannot be introduced in British America unless it may be made profitable. I confess, I cannot look upon any system of Agricultural Management in tillage or stock, as entitled to the term "*improved*," unless it produce *actual profit* to the farmer. Expenditure of capital or labour in any way, that will not give proportionate returns, must be injurious to the community as well as to the individual who expends it. By *practically* and *usefully* educating the farmer, he will be able to determine for *himself* the course he ought to adopt in the conduct of every part of his business. In vain was all that has been written and published for the improvement of husbandry, if farmers cannot and will not read. The manners and customs of other countries are unknown to him. The

wonders and beauties which abound in the world, are of little consequence to the man who cannot make himself acquainted with descriptions that are given of them, and that would place them, as if viewed in a glass, before him. The usefulness and enjoyment of those so circumstanced, must indeed be confined within narrow bounds. It is those who have the good fortune to be educated, that will know that education is an essential element of the usefulness of man to those around him, to the world, and to his own enjoyment.

STANDARD WEIGHTS AND MEASURES

There is an interesting article in the "Penny Cyclopædia," under this head. It appears that about the year 1760, a standard measure and weight, were placed in the custody of the Clerk of the House of Commons. "The Houses of Parliament were burned in 1834, and with them Bird's standards of 1759, and 1760, (the last the standard.) Nevertheless 5 and 6 Wm. the 4th, c. 63, passed after the fire, takes no notice of the destruction of the standard, but refers to it as still in existence. As to the standards, the act prescribes as follows:

1. The straight line or distance between the centres of the two points in the gold studs in the straight brass rod now in the custody of the Clerk of the House of Commons, whereon the words and figures, standard yard, 1760, are engraved, shall be the original and genuine standard of that measure of length or linear extension called a yard, the brass being at the temperature of sixty-two degrees of Fahrenheit's Thermometer. The Act goes on in many words to say that the pendulum vibrating seconds of mean time in the latitude of London, in a vacuum at the level of the sea is 39,—1303 inches of the said standard.

2. The standard brass weight of one pound troy weight, made in the year 1753, now in the custody of the Clerk of the House of Commons, shall be the original and genuine standard measure of weight. The Act goes on to say that the cubic inch of distilled water, weighing in air by brass weights at 62 degrees of Fahrenheit's, the Barometer being at 30 inches, is equal to 252—458 grains. It happens particularly for the scientific standard, that about the year 1832 the Council of the Royal Astronomical Society caused a scale to be constructed for themselves, and obtained permission of the Speaker of the House of Commons, to compare it with Bird's two standards, which was done in the beginning of 1834, by a much more extensive set of experiments than had ever been made before for a like purpose. This is now, in fact, the standard scale of the country, or, at least, the only measure from which the standard scale can be decided." * * * *

The late Administration appointed a Commission of men of science to "consider the steps to be taken for the restoration of the standards of Weights and Measures."—The Commission was appointed in May 1838, and they made their Report last year, (1841.) The article referred to says:—The Report which is long, is accompanied by extracts from various of evidence oral and written. After writing that the standard yard was rendered absolutely useless by the fire at the House of Commons and that the standard troy pound weight together missing, the Commissioners begin recommending the total disuse of all attempts to procure a national standard, and the return to the old plan of standards manufactured in metal;

that four copies of the best existing representations of the old standards should be made and carefully compared; that one of these copies, should be permutually sealed and imbedded in the masonry of some public building, marked by an inscription, and only to be opened by Act of Parliament; that various precautions, minutely named, be taken for the preservation and safe custody of the others, that the avoirdupois pound, and not the troy, be the standard; that the Government purchase all the known copies of the old standards which have been noted in scientific operations; that no circumstance would contribute so much to the introduction of a decimal scale in weights and measures as the establishment of decimal coinage, which is strongly recommended, that the 'old Gunter,' Chain be preserved in the measurement of land; that a measure of 1,000 or 2,000 yards receive a name, and co-ordinately with the mile, with a view to the gradual disuse of the latter."

We have copied only a part of the article that we conceived might possess some interest for Framers. It would be very much for the advantage, and convenience of Canadian agriculturists, that all our weights and measures throughout British North America should be exactly assimilated to those of England. At present our weight, and measures are different in Eastern and Western Canada, and both differ from the English Imperial measure. There is no reasonable cause, that we are aware of, that should prevent the introduction of this necessary assimilation.

STALL FEEDING.

In our Treatise on Agriculture, at pages 257, 258, and 259, we have given an article on this subject, and though we might say more respecting Stall Feeding, we have no reason to change the opinion we submitted in the article referred to. We shall, however, give our subscribers the benefit of the opinion of other Agricultural authors on this subject, and we copy the following from the Penny Cyclopædia and from Professor Low's Practical Agriculture:—

"The feeding of cattle in stalls, for the purpose of fattening them, at a time when they cannot get fat on pastures, as a regular part of the process of husbandry, is comparatively modern. In former times cattle were slaughtered in October and November, which latter, in most languages derived from the Teutonic, is called *slaughter-month*, there being no possibility of buying Fresh-meat of any degree of fatness during winter, and Salt-meat was the food of all classes in that season. But now the process of feeding cattle goes on without interruption during the whole year, and fat beasts come as regularly to market in winter as in summer. Stall-feeding is now the principle means by which oxen and cows are rendered fit for the market in winter.

In stall-feeding, the object looked to is, that of increasing the substance of the animal, especially the fat; and to do this judiciously and with profit requires much experience and attention. It has been proved that animals require a certain portion of meat and drink to keep them alive, and that this quantity, in the same species, is in general in proportion to the weight of the animal. If an animal has his exact ration of food, he will continue in health, but will not increase in weight; in this case, therefore, it only produces a certain portion of

manure, which is not equivalent to the food consumed. If a larger quantity be given, the animal, in health, will increase in weight, and the more food he has, within a certain limit, the faster will be the increase, but there is a point where increase stops; and if by any means the animal is induced to take more, his stomach will be deranged, and he will become diseased, and occasion loss by over-feeding. It is consequently of great importance to the stall-feeder to ascertain what is the exact quantity of food which it will be most profitable to give to a stall-fed animal. Experience alone, can teach this; but some rules may be given which will enable any one who wishes to stall-feed cattle not greatly to err in his mode of feeding, and soon to find out what is the most profitable course to pursue. For this purpose it is essential that having ascertained by experiment the quantity of food which will give the greatest increase of flesh per week on a certain weight of beasts when put to fatten, all the food given to the cattle be carefully weighed, and no more given in any day than is needful. The quality of the food should also be attended to; for a truss of fine well made clover, lucern, or sainfoin hay, may contain double the nourishment of another truss of course marsh hay. The best kind of food should always be reserved for fattening cattle—Roots are excellent helps, but roots alone are too watery, and must be corrected by dry food, such as straw cut into chaff, or good hay, and especially farinaceous food, whether it be corn ground or bruised, or oil-cake after the oil has been expressed. By a judicious mixture of food a much greater increase of flesh may be produced than by an irregular mode of feeding, however good the quality or abundant the quantity given may be. To over feed is as unprofitable as to starve a beast, and produces similar effects. It is of great importance that the cattle should be fed with great punctuality, at certain hours during the day, and that the troughs should be cleaned of all the remains of food, which they do not eat, at each time of feeding. Rest and sleep are great aids to digestion, and a little gentle exercise after sleep prepares the stomach for a fresh supply of food—Air also is highly conducive to health. Experience shows that all domestic animals like company, and that they are more contented and quiet when they have a companion than when they are alone. This is the reason, why some farmers put them up in pairs in a stall. Whatever promotes the health and comfort of the animal will be most profitable for the feeder. When a beast has acquired a certain degree of fatness, it is a nice point to decide whether it would be best to send him to market, or continue to feed him. This is often decided by mere caprice or fancy; but if the food has been weighed, and the weekly increase of the beast is noted, which is best done by weighing, but may nearly be guessed by measuring, it becomes a mere question of arithmetic to determine whether his increase pays for his food and attendance, if it does not, there is a loss in keeping him; and if a lean animal put in his stead would increase faster, on the same food, every day he is kept there is a loss of the difference between the two. The pride of producing a wonderful animal at a fair or show may be dearly paid for, and must be put down to the account of luxuries, such as keeping hunters and race horses.

The most profitable food for fattening cattle is, in general the produce of the farm—the expense of all purchased food is increased by the profit of the dung and the manure of it. And the only compensation for

this additional cost may be in increasing the manure, when the straw and roots of the farm are deficient, in that case oil-cake, or even corn, may be purchased with advantage, since by means of the manure crops may be raised which without it must fail. The stalling of cattle, as well as the fattening of pigs, is in many situations the best means of carrying the produce of the farm to market. An ox can be driven many miles, whilst the food he has consumed would not repay the carriage, and all the manure would be lost, and must be purchased at a great expense if it can be had at all. If a farm can feed cattle so as to pay him a fair market price for the food consumed, and something for the risk of incidental loss, he may be well contented to have the manure for his trouble; few stall-feeders get more than this in the long run."

Professor Low says:—An ox of from 50 to 60 stones weight (14lbs. to the stone) will consume about a ton of turnips in the week, and that if he thrive well, he will gain in weight 14lbs. or more in the week." He further observes:—"the grains of the distillery may be given at the rate of from a bushel to a bushel and a half in the day, with a proper supply of dry food: the liquid portion, or wash, to be given as drink to the animals. Oil-cake if employed in feeding, may be given in quantities of 2lbs. or more in the day, along with any other food. It is frequently given with hay, alone, and the quantity that will feed an ox is from 12 to 15lbs. with half a stone of hay in the day; but this is an expensive feeding, and the better mode of using oil-cake is to give it in small quantities, with less costly provender. Salt should be given to feeding animals—the quantity from 4 to 5 ounces in the day to old oxen—to yearlings from 2 to 3 ounces, and to calves $\frac{1}{2}$ an ounce.

"The breeder, in the case of certain farms in the British Isles, is not the feeder. He merely rears the animal to the maturity of age, or degree of fatness, which the nature of his farm allows, which other persons complete the process of feeding, in the manner which their peculiar situations render profitable or expedient." * * *

We wish we could, by stall-feeding cattle be sure of getting a fair market-price for the food consumed, and we would be perfectly contented with the manure for our trouble, and though we reside within about four miles of Montreal, we should adopt the feeding of cattle, rather than send raw produce to market. Under the existing state of the laws, however, that admits foreign cattle and fresh meat, we cannot feed cattle without increasing the risk of serious loss, indeed almost certain loss.

From the Colonial Farmer.

REMEDY FOR HARD TIMES.

There is at present a general complaint of "hard times," which is not confined to one nation, or to one kind of business.—This complaint has always been made by some at all times, but is certainly now made by so many as to prove that it is well founded. If we can discover the cause of the evil, we may perhaps find the remedy. It does not appear to have originated from any cause beyond our controul. Peace has continued for a long time; adverse seasons have not prevented the earth from yielding a plentiful supply of food for its inhabitants; the sea still furnishes us fish; yet we hear the cry of wide spreading ruin from those who have more than enough of the necessities of life; their produce, they say, will

not sell for enough to pay cost, and they cannot employ labourers and tradesmen as they used to. But why should the Farmer who has enough to live upon be greatly distressed because his surplus produce fetches a low price? What is the name of the Lacedæmonian who is paralysed the energy of multitudes? It is debt, debt not necessarily incurred. It is no very consoling when we are in trouble, to reflect that it is by our own fault, but when it is the case, it is by our own fault, but when it is the case, it may be useful to know it, because that which we may have done ourselves we may possibly be able to undo, by changing our practice.—The remote cause of difficulty may be traced to the modern offices for leading a paper currency, which enable every man, for the consideration of a heavy interest, to set his fixed property afloat without the trouble of selling it. Most men wish to become rich, but neither the Farmer, the Merchant, or the Tradesman will succeed in the wish, without extraordinary industry and application, nor without establishing a rule to spend less than he earns; and when this course proves successful, many years of hard labour must elapse before wealth can be acquired. But when it was generally understood that a man could have nearly the value of what he owned in something that answered the purposes of cash, while at the same time he retained all his real property, the spirit of speculation soon appeared, and spread from place to place like the Cholera. The Manufacturer increased his workshops; the Merchant doubled his importations; the Farmer increased his business, and in too many instances left his own occupation for some other by which he expected to acquire sudden wealth. For a time every active man believed that he was grown rich, for it is perhaps more easy to gull half a nation, than to impose upon one intelligent man. We are more frequently too lazy to think, than we are to work, and when it is generally believed that wise men have thought for us we often follow them without reflection, as we seen the sheep, follow the old man into the well, the curb of which he mistook for the garden fence. But these golden dreams ended, and many awakened to discover that they had involved themselves in debts which they saw no prospect of paying, and all the value they had received, was learning by sad experience, what they might have previously learned by reflection, that the only way to become rich is, to spend less than they earn. But during the time that they believed they were going ahead, most had drawn upon their future wealth to introduce a more showy and expensive style of living, an evil which is never confined to those that begin it, for it always spreads till it reaches the lowest classes. Virgil gives a distinguished place in his Elysium to the inventors of the useful arts, and as a contrast to this, some of the religious writers of the "dark ages" inform us that the unhappy spirits of the inventors of oppressive taxes, and of wasteful and extravagant fashions, are in danger of a constant increase of their misery to the end of the world, because there will always be an addition to their punishment, for every additional person who suffers by the tax, or who adopts the luxurious fashion; which is no less injurious; because it absorbs the funds which ought to have kept the helpless portion of the human race comfortable. When men discover that they are spending too fast, few have the fortitude to retrench immediately, but in such cases the time soon arrives that gives an irresistible check to their career; and then the blame is laid upon "dull times," and it would be a pity to deprive people of the privilege of having something

to lay the blame of their mismanagement upon, besides themselves.

We all know that dull times cannot be mended by sitting down and grumbling, we must make use of our strength both mental and bodily; let every one think before he acts, and calculate his projects so carefully as to ascertain whether they will be profitable, let every one reduce his expenses below his income, if possible (and few farmers will find it impossible,) let strict economy be observed, permitting nothing to be lost for want of care, or from neglect in doing work at the time it ought to have been done. Let every one be sober and industrious, and we shall be on the right road, and though it is an uphill road which we cannot go up as fast as we ran down it, yet it will, if we follow it, lead us out of debt and difficulty.

It is never so easy to retrench as in dull times; the fear of being suspected of poverty, often prevents men from reducing their expenses, but in dull times, the first that dares to retrench will immediately be imitated by neighbours who have long wished to do the same, but who have not had courage enough to be the first to begin. Fashion is often called a tyrant, because his laws are so frequently mischievous and unreasonable; but we recollect that he allows his subjects perfect liberty to frame the laws by which he governs them, with a franchise as unlimited as any Chartist could desire. If there are any of his regulations which we dislike, we have the power to change them when we will. We have ourselves framed the regulations under which he has compelled us to spend more than we earned, till we had all got in debt. And shall we not act like wise men, in adopting a rule to earn more than we spend, till we get out again especially as we know that as soon as it shall be generally received Fashion will sanction and enforce it,

SPERM OIL MADE FROM LARD.

We highly recommend the careful perusal of an able article from the *Farmer's Gazette*, on the manufacture of Sperm Oil from Lard, a discovery made within the last two years in the United States, and one which has already opened a very lucrative business, and extensive trade for the Western States. This oil not only answers admirably well for a substitute for the best of sperm, but it is held in high repute among woollen cloth manufacturers, for combing wool, for which purpose one factory alone has lately contracted with a house in New-York for 10,000 gallons per annum, besides an order for 600 gallons has been received by the same house from Undersfield, England, for trial, for the above purpose. From the most authentic accounts we have received, we are warranted in stating that it will bear, if properly manufactured, a higher price in the market than sperm. It is said that it will burn longer, than the above, and is very white and clear, and emits no unwholesome odour, or smoke while burning, and will also stand any degree of cold without chilling or freezing. Although the prices of pork are unprecedentedly low in the large pork growing districts of the Union, the present season, yet, the price of lard is 50 per cent above the average for the past ten years.

We have no scruples in recommending some of the most enterprising among the pork buyers of this city, to make a trial in manufacturing the article. The Canadians are, we are sorry to state, highly reprehensible in showing so much apathy in matters of enterprise and improvement, however, we trust that they will avail themselves of this particular advantage in the superior skill of their more enterprising neighbours which will open a new channel of trade, and we venture to predict, will ere long be an extensive article for export, to assist to meet the heavy demands already against us, for imported goods.—Pub.

We would not be acting fairly towards our Subscribers, if we did not copy the following letter for their consideration. We are aware that large crops may be raised by very careful cultivation, if we were secure from the ravages of the wheat fly, and could dispose of all the potatoes we could grow at 50s. per ton. At all events, the letter deserves some attention from Canadian Agriculturists:—

IMPORTANT TO AGRICULTURISTS.

To the Editor of The Mark Lane Express.

SIR,—Allow me, through the medium of your columns, to call public attention to some extraordinary results in farming, which have come under my own observation. I recommend them to the serious attention of your agricultural readers, many of whom are probably not aware of the profit that may be made from land under a somewhat different method of cultivation from that usually pursued.

Samuel Bridge, of Stock Green, near Feckenham, Worcestershire, has about four acres of *very inferior, stiff, clay land* on the blue lias, which he has occupied for twenty-seven years. He grows wheat and potatoes, and about one-quarter acre of beans. Leaving the beans out of the account, for the sake of simplifying it, we may consider two acres to be in wheat, and two acres in potatoes every year, the crop being of course shifted alternately from one division to the other.

His system of cultivation is this. As soon as the wheat is off, he breast-ploughs his stubble ground, raking up, and saving the stubble carefully to litter his pigs. He then digs it all over with a fork, and plants his potatoes on it the following spring; this crop being kept clean while growing, the land, when it is taken up, needs no further preparation for wheat.

He has pursued this system of cultivation during the whole period, with the exception of the first three years, when his neighbours ploughed his land for him for nothing. They are willing, he says, to do the same now at any time, but he prefers going to the expense of digging it to having it ploughed for nothing. He has done so for the last twenty-four years.

He does most of the labour himself, but he estimates the whole by measure according to the rate at which he pays others. It amounts altogether to 4l. 6s. 1½d. per acre; his average produce has been rather more than five quarters, or forty bushels of wheat per acre, and twelve tons of potatoes per acre.

He sells all his produce, even his straw, excepting a few potatoes and beans, which he consumes in feeding about thirty or forty score of bacon annually for his own consumption; he litters his pigs with the potato haulm and stubble, and the manure from this source, and from his privy, with some clay out of his ditches, which he gets occasionally, and burns, is all that he has.

Leaving out of consideration the small quantity of beans raised, and of bacon fed, valuing the wheat at 7s. per bushel, (it has probably averaged more than this during the time he has occupied the land), and the rest of his produce at the price he obtains for it, we shall have something like the following account:—

SOLD ANNUALLY.	
24 tons of potatoes, at 50s. per ton.....	£60 0 0
80 bushels of wheat, at 7s. per bushel.....	28 0 0
Carried forward.....	£88 0 0

Brought forward.....	£88 0 0
4 tons of wheat straw, at 50s. per ton.....	10 0 0
	£98 0 0
DEDUCT AS UNDER.	
*Manual wages at 4l. 6s. 1½d. per acre.....	£17 4 6
Seed potatoes for two acres, 25 bags of 180 lbs. at 4s.....	5 0 0
4 bush. seed wheat at 7s. 6d.....	1 10 0
	23 14 6

Subject to rent and parochial payments.....£74 5 6

This useful and industrious member of society has bought his land and erected a cottage and outbuildings upon it.

Every farmer who reads this statement will probably say at once that this man's system of culture is bad because he sells all his crops, or nearly so. This I fully admit, and believe he would realize a larger profit if he grew, say beans and potatoes, and consumed them all in feeding pork and bacon; but even under this disadvantage what are the results which he has obtained?

I believe that most of the land at present under cultivation in England yields little more than 5l. per acre, gross produce, and pays not more than 20s. per acre per annum manual wages.

Samuel Bridge, off *very inferior land*, has obtained, for a quarter of a century, nearly 25l. per acre gross produce, and paid more than 4l. per acre, manual wages, or used labour to that amount. He employs then four times as much labour, and gets five times as much produce as the generality of farmers.

He gets 18l. 11s. 4d. per acre, subject only to rent and parochial payments. The land in the neighbourhood is rented, I believe, generally at 24s. to 25s. per acre. The latter amount being deducted, leaves 17l. 6s. 4d. per acre profit to the cultivator, subject only to parochial payments.

I am aware that in some of the good agricultural districts, crops equal or superior to Bridge's are obtained, as is the case on this farm, under plough culture, but to have obtained such crops from *bad land, during so long a period, and with so little manure*, renders the case extraordinary, and I think it is to the thorough digging, when in a dry state, of the ground, and the absence of the trampling of horses, that we must attribute the result obtained.

Were this quantity of manual labour employed on the land, and these results obtained all over England at the present time, we might, perhaps, with more reason talk about our inability to employ and maintain our population. Why should such numbers of people in England be unemployed and starving?

J. Morton, Esq., agent to the Earl of Ducie, allows me to state that he has visited S. Bridge, that his land is a cold tenacious clay, that he heard his account of his system of cultivation, and that the account I have given of it in this letter is perfectly correct.

I am, Sir, yours' respectfully,

HENRY F. FARDON,

A Pupil on Whitfield Example Farm.

P.S. The wages were given me by Bridge at so much per rood of 64 square yards, a common measure in Worcestershire; I have calculated 75 of these to the acre, without regarding the fraction.

* MANUAL WAGES PER ACRE.			
POTATOES.		WHEAT.	
£.	s.	d.	£. s. d.
Breast-ploughing	0	9	4
Stubble ..	1	8	1
Forking over ..	1	8	1
Planting potatoes.....	1	17	6
Keeping them clean.....	0	4	0
Getting up.....	2	16	3
			1 17 0
			£1 17s. 0d. x 0 14 0
			13 10 6
			17 4 6
£6 15s. 3l. x 2 3 10 6			4) £17 4s. 6d. (4 6 1

From the Farmers' Gazette, Connecticut.

In the States of Indiana, Illinois, Ohio, and Michigan, large manufacturing establishments are rising up, and their importance are beginning to be felt extensively at the East. The modes of manufacturing are various. That our readers may understand the nature of the process, we extract from Mr. J. H. Smith's communication, lately published in many of the papers, the substance of his method, for which he has obtained a patent. But a French chemist, by the name of Chevreul, first made the discovery, that tallow and lard contained what he denominated olein, or oil, and stearine, or the solid part of those articles. Mr. Smith, says:—

"My most important improvement in the within described process, consists in the employment of alcohol, which I mix with the lard in the kettle or boiler at the commencement of the operation. When the lard has become sufficiently fluid, I gradually pour and stir into it about one gallon of alcohol to every eighty gallons of lard, taking care to incorporate the two as intimately as possible; and this has the effect of causing a very perfect separation of the Stearine and Eleaine from each other, by the spontaneous granulation of the former, which take place when the boiled lard is allowed to cool in a state of rest. Sometimes combine camphor with the alcohol, dissolving about one-fourth of a pound in each gallon of alcohol, which not only gives an agreeable odour to the products, but appears to co-operate with the alcohol to effect the object in view; the camphor, however, is not an essential ingredient, and may be omitted; while spirit of a lower proof than alcohol may be used, but not with equal effect or benefit."

"After the boiling of the lard with the alcohol has been continued for a sufficient length of time, the fire is withdrawn or the supply of steam cut off, and the mass is allowed to cool sufficiently to be ladled or drawn off into hogsheds or other suitable coolers, when it is to be left at perfect rest to cool down and acquire the ordinary temperature of the atmosphere; and as the cooling proceeds, the granulation consequent upon the separation of the Stearine from the Eleaine will take place and become perfect. The material is then to be put into bags and pressed moderately under a press of any suitable kind, which will cause the Eleaine to flow out in a state of great purity, there not being within it any appreciable portion of Stearine; and this pressure is to be continued until the Stearine is as dry as it can be made in this way. The masses of solid matter thus obtained, are to be remelted, and in this state are poured into boxes or pans of the capacity of ten or twelve gallons, and allowed to form lumps or blocks; which, when removed from these vessels, are piled or stacked in a room

for a week or ten days, more or less, the room at a temperature of nearly 70 degrees, which will cause a sweating or oozing from the blocks, and they will improve in quality. The blocks are then to be rolled in cloths or put into bags, and these placed between plates, are to be submitted to very heavy pressure by means of an hydraulic press. After this pressure, it is brought again into the form of blocks, and these are to be cut up by means of revolving or other knives or cutters, when the pieces thus obtained, are to be put into bags and subjected to the action of hot water or of steam, in a press, until it becomes hard enough to be manufactured into candles, or put up for other purposes to which it may be desired to apply it. And the manner of subjecting it to the action of heated water or steam, is to place the bags containing the Stearine, in a box or chest into which heated water or steam may be introduced, but not to such extent as to infuse the Stearine. A follower is then to be placed against the bags contained in the chest or box, and moderate pressure made upon them, and the material will now be found to have acquired all the required hardness, and to possess a wax like consistency, such as would generally cause it to be mistaken for wax."



To the Editor of The British American Cultivator.

MONTREAL, Dec'r. 31, 1842.

Dear Sir,—The expense attending the working of a farm in Canada East is universally admitted to be very great, but much more so to proprietors who are themselves unable to labour in the cultivation of their lands, any plan therefore that can be suggested, calculated to diminish that expense, is of importance, and should be made generally known, particularly in this country where too great wages are exacted by, and paid to hired farmers and labourers, and which I am satisfied the produce of no farm will ever repay and consequently no proprietor can afford, or ought to give; it is not, however, upon the subject of exorbitant wages I wish now to dilate, but to request you will have the goodness, through the medium of your excellent monthly publication THE CULTIVATOR, to indulge me and the public with your opinion whether in Canada the securing of grain in ricks instead of barns, can be done with safety and advantage, and thereby save the heavy cost of the latter. I have been led to make the present request from having lately perused a communication in the Edinburgh Farmers' Magazine for 1802, subscribed R. R. R., and wherein the securing of grain in ricks, properly constructed, is strongly recommended, as being not only less expensive but even more advantageous than storing in barns, for being thereby exposed to the free air all round, the grain and straw are not so apt to heat and mould, nor of spoiling in any manner, and may also be secured earlier and not in the dry state necessary for a barn, whereby much grain is shed or shaken out and lost; besides being more secure against the depredations of vermine. The method of constructing the ricks so recommended is to build them in the yard upon wooden frames, open below, and raised on stone supports, and it is observed that these ricks, as only serving for a season, do not require

much time and labour not needing to be thatched so very substantially as other and more permanent thatchings require to be, the centre or heart of the rick should always be considerably higher than the outer range of sheaves, and every sheaf should have much slope, outwards and downwards, and when this is duly attended to, and all the sheaves carefully locked together and the crown properly put on, the writer says the rick will turn a very heavy shower before the thatch is applied, but that after thatching the rick should be covered over with a net-work of straw ropes, leaving the meshes about 9 or 12 inches wide, all the ends of the ropes being secured to a belt rope below the eaves within the reach of a man, and the middle of all the ropes tied to one that goes straight over the top of the rick by small handfuls of straw, and in page 332 of the Magazine already referred to, a plate descriptive of such a rick is represented, showing the disposition of the whole; the same method is also recommended in regard to hay as being thus more safely and advantageously secured, and moreover prevented from acquiring a musty flavour and from being heated. Aware that many things in farm economy and arrangements, as practiced in the mother country with much advantage, might not exactly suit the climate of Canada, and would not therefore be equally beneficial here, and indeed in some cases be dangerous to adopt; I shall be much obliged if in your highly and justly esteemed publication, you would favour me and farmers in general with your opinion upon the foregoing subject, and whether from the long experience you have had in agricultural pursuits as a practical farmer of long standing, you would recommend the securing of grain in ricks in the manner before described and as practiced in England or in some parts thereof, and at the same time if you can suggest any improvements in the proposed method and will favour the public with them, they will I am sure be received with gratitude and thanks by not only all true farmers but by all those who have sufficient intelligence to perceive the vast and primary importance of agriculture to every country, as being the only sure and permanent basis of its wealth and prosperity; and in the encouragement and success of which every member of the society is deeply, though I fear sometimes unknowingly, interested; not reflecting that under the wise provision of a kind and bountiful Providence, they are indebted to the intelligent and industrious cultivator of the soil, for the bread they eat and for their daily subsistence, and for which we must finally be dependant upon and indebted to other and wiser countries, while our own will become inevitably impoverished and degraded, should we forget the sage and patriotic advice of the poet Thompson, to "venerate the plough"; and by unpardonable ignorance, or from any selfish and heartless motive we neglect to support and advance the agriculture of our own Province and bring down so great a disaster upon it, as we should then be compelled to become the importers in lieu of being what we can and ought to be, the exporters of much surplus produce from our own soil, and thus materially contribute to enrich our common country, in lieu of paying foreigners for our bread, and who in the event of war would be able to withhold it from us. Hoping for as early an answer as your convenience will admit, and with every wish that your highly useful paper may meet with that extensive and generous support to which it is justly entitled, I am, dear Sir, your very faithful and obedient servant,

A FARMER.

To the foregoing letter of our highly respectable Correspondent, we reply without delay.

The expense of working a farm in Canada East by a proprietor who has to pay for all the labour, is certainly too great at present in proportion to the selling value of the produce raised by labour, and thus we conceive to be the principal check to the improvement of our agriculture. It prevents those who are educated and have capital from embarking in rural pursuits, from the uncertainty which exists of obtaining fair remuneration for their capital, and no class of persons in Canada would be more certain to produce the necessary improvement in husbandry than educated men of capital, who if they did not possess practical skill, would be able and willing to employ skill and pay for it. There are not many of the Canadian community, however, who could be expected to risk capital without a prospect of fair remuneration; and until this prospect becomes more certain than at present, the progress of improvement in our agriculture will be slow indeed. The public works in this country will maintain a high standard of wages—higher than any farmer can afford to pay while the prices of produce are so low. The wages paid by farmers under present circumstances, we do not hesitate to say are too high. Farm servants who are engaged for the whole year, and who are not thrown out of employment in the winter, should be well satisfied with lower wages than is generally paid to them. A farm servant employed only for the summer months, or the field working months, should be entitled to nearly if not fully as much wages, as one engaged for a year who would have his food and lodging secured to him for all that time, while the other would have both to pay for when idle in winter. Farmers do not sufficiently consider these matters, or a more equitable scale of wages would have been understood and established by them. We do not desire that wages should be very low; but we are convinced that very soon farmers must reduce wages to a standard proportioned to the prices of produce, or they cannot employ and pay for labour. It is useless to produce at an expense that the produce will not sell for—and there is no doubt that a disproportion between the expense of production and the value of produce cannot long continue here.

In reply to our Correspondent's inquiry whether hay and grain can be secured here in ricks or stacks with safety and advantage instead of barns, we answer that they can. Ricks and stacks, properly constructed and thatched in the manner he describes, will keep the grain as safely as in barns. Hay may also be preserved in the same way. The great difficulty is in procuring men capable of constructing them properly, and we believe there is not one in five hundred of the emigrants who annually come here, who can construct properly a stack of grain or hay. Men will tell you they understand this work, but when left to them to execute,

they construct them in such a defective manner that they are not secure against injury, and their appearance are most discreditably to a farmer. We have had no difficulty in procuring men who understood stacking hay and grain than for any other work upon the farm. Indeed we have seldom met with a man who understood the work properly during our long residence in the country—though we have met a few, chiefly Englishmen.

We would recommend that the stacks should not be made over large, that they should be high to the eaves, and the head of the stack not higher than would be necessary to throw off the rain when thatched. By this means the most of the grain is in the stack to the eaves, where it is safest from injury. In constructing a rick of hay, it cannot be finished in a day, and consequently during the progress of its construction, it may be subject to injury from rain. This may often produce considerable damage to the hay, loss of labour, and delay in taking off, drying, and putting on again the hay that may be wet. For any farmer who would have to stack hay, it would be necessary he should be provided with a large oil cloth of a size sufficient to cover the stack at the place of its largest diameter. This oil cloth might be more than paid for by the injury it might prevent, in the progress of constructing one rick of hay; and with such an oil cloth and a good stacker, a farmer may stack his hay without difficulty or risk, and save a considerable amount of capital that would be required for constructing barns. We would recommend that the stack-yard should not be too near the dwelling-house or farm-buildings, in order that in case of fire the risk would not be so great that all the buildings and produce would be lost. The farmer can easily determine the distance that would be necessary between the stack-yard and buildings to prevent risk in case of fire in either one or the other. Stands of wood to be placed under the stacks of grain, may be easily and cheaply constructed, so as to raise the bottom of the stack about 18 or 24 inches above the level of the ground. These stands will preserve the grain from vermin, and prevent injury by snow or damp. When the farmer cannot conveniently form stands for the stacks, some brushwood and straw should be placed under them so as to preserve the grain from damp. Whether the grain is placed on stands or not, if the stacks are properly constructed and thatched, it will be as safe as in barns and more free of injury by vermin. Agricultural Societies should offer premiums to labourers who were good stack-makers, both of grain and hay. These societies could not better apply a part of their funds than in the encouragement of useful and intelligent labourers. The difference in the value of labourers to a farmer is much greater than is generally imagined—and those that understand the general work of a farm, and are faithful, should be encouraged.

We are rejoiced to find our highly respectable Correspondent so fully persuaded

of the importance of agriculture. It would be well for Canada if many of the respectable class of her inhabitants were of the same opinion, but we regret to say that such is not the case. There are some honourable exceptions we are proud to admit, who are even willing and anxious to forward the true interests of Canada generally, and who are perfectly sensible of the importance of agriculture to these interests—but they are few we have reason to know. We would most earnestly request our respected Correspondent to continue his communications, and we promise him we shall reply to his inquiries, should he make any, in the most satisfactory manner we are capable. We expect, however, that these communications will contain instruction and suggestions that will be highly useful to us as Editor of this Periodical and to the Subscribers.

To the Editor of The British American Cultivator

SIR,

We have lately heard of some spring wheat raised in the Eastern Townships said to weigh 60 lbs. per bushel, and to be a certain crop; likewise some oats of a superior kind, very hardy and weighing from 40 lbs. to 42 lbs. per bushel. If you could give us any information on this subject through your valuable columns, or put us in the way of procuring the same you would confer a great favour. Fall wheat in many parts of our District, and particularly in the newly cleared lands, has been a complete failure for the last few years; and if we could obtain spring wheat of a good quality and tolerably certain in its crop, we would endeavour to distribute the same throughout the District.

I am yours,

EDMUND DEEDES,

Pres. Brock District Ag. Society.

Woodstock, Dec'r 13th, 1842.

As our Journal has an extensive circulation in Canada East, we would hope such of our readers in that part of the country as are qualified to answer the above inquiries, relative to the varieties of grain mentioned by our Correspondent, will do so without delay through the columns of THE CULTIVATOR.

We feel much pleasure in offering our gratuitous services as Agent, to introduce those grains into Canada West, to the Officers of the Brock District Agricultural Society, or to any other society that may desire them for experiment.—Pub.

To the Editor of The British American Cultivator

SIR,

I beg through the medium of your very useful publication, to correct what I conceive to be an error in the communication signed F. Jones, and published in the Nov'r. number of THE CULTIVATOR of last year. Mr. Jones states what he believes to be the fact that the Act Wm. IV., c. 12, for the regulation of line fences and watercourses has been allowed to expire. This is a very useful and beneficial Act, and almost every agriculturist is more or less interested in it; and in my opinion has not been allowed to expire as your Correspondent believes. I do not by any means suppose that Mr.

Jones has intentionally endeavoured to mislead the public with regard to the above recited Act; but it is very evident that the 2nd Vic., c. 18, has escaped his notice, by which the line fences and watercourse Act has been continued and made permanent.

Yours' sincerely,

LEVI WILSON.

TRAFALGAR, January 10th, 1843.

To the Editor of The British American Cultivator.

SIR,

I believe I made a promise in my last communication, that I would in this month, write something for publication, in what I consider the most important periodical in United Canada, but I forgot to inform you that I am lacking in two very necessary qualifications for a writer in a public print: viz., ability and time. Did I possess these pre-requisites in proportion to my good wishes for the success of the Canadian farmer, I should no doubt be able to entertain them by occupying a few columns in THE CULTIVATOR; however, trusting that you and your readers will take the will for the deed, I venture to commence.

Permit me to express my satisfaction on reading the Honourable Adam Fergusson's communication, published in the November number of your journal, in which he is pleased to notice our townsman Mr. Hanes. Mr. F. is perfectly correct when he says Mr. H. is a very intelligent Canadian farmer. I feel fully satisfied that it would be for the advancement and prosperity of the country, if we had a few more of the same stamp. In the next place I may state that I am doing a little at farming. Though I pursue some other branches of business, I am proud to be ranked among the cultivators of the Canadian soil, and although I was reared on a farm and occasionally assisted my father in the farming operation, yet I find the perusal of The Cultivator of great service to me, and if I could see it taken, and read, and the useful suggestions which it contains acted upon by the mass of my fellow-farmers, it would afford me the greatest pleasure. I have been trying to impress on the minds of all with whom I am conversant, the utility of an Agricultural Journal. The common reply was—"that the times are too hard." I never fail to tell such that they will always remain poor and their children after them, if they do not try and improve in their unskillful system of farming.

Before your paper was in existence I took an American work, but as soon as yours made its appearance I gave up the latter, and subscribed for The British American Cultivator. I take the liberty to recommend this course to every true British Canadian, whether he be such by birthright or adoption, unless he can afford to subscribe for more than one, not that I undervalue the United States agricultural publications, but because I conceive that in this, as with most other similar cases, charity should begin at home, and further having carefully read both, I am decidedly of the opinion that the Canadian production is the best of the two for Canadian farmers. Through reading agricultural journals, I have been induced, "hard as the times" were, to purchase some of the improved breeds of Horned Cattle, Sheep, and Swine, and am gratified to state that my most sanguine expectations have been realized. I have tried both Ayrshire and Durham cattle, and must say that I am inclined to give the former the preference, especially for dairy purposes. This however may in part be owing to my partiality to the people, and in fact any thing that comes from North Britain, notwithstanding either is a decided improvement.

crossed with our native breeds. I have made choice of the Leicestershire breeds of sheep, and the Berkshire hogs, and also a cross with the latter upon a larger breed, in both cases I have been very successful. When I first brought some of the Berkshire home, I told my neighbours the price that I paid for them and the distance I had gone after them, they thought that I was labouring under a derangement of mind; but when they saw the difference in keeping and fattening them compared with the "land pike" and other similar breeds, they very soon allowed reason and common sense to prevail, and concluded that it was themselves who were labouring under a derangement of mind. Some however will not yet give up the point, and not unfrequently say that the difference in breed is merely a difference in the keep; and I am not a little amused to listen to their remarks and inquiries, when they see some of my Berkshire stock running in the pasture, and fed in the ordinary way, being as fat and sleek as seals, and fit for the butchers' shambles: why, say they, you must feed them on "pudding and sweet milk."

I had almost forgotten to give you the weight of two pigs which were farrowed on the 20th of August last, the one a full blooded Berkshire, and the other a cross of the Berkshire with the English grass breed. These pigs weighed on the 27th September, 57y, *Blucher* 22½ lbs., and *Maclum* 23 lbs. On the 17th November following, weighed them again—*Blucher* weighed 76 lbs., and *Maclum* 75 lbs.; thus, you will perceive, was something more than one pound per day.

I now beg pardon for having trespassed so long upon your patience, and in return shall try to increase your subscription in this neighbourhood, wishing you all possible success, with the compliments of the season.

I subscribe myself,

Your very Obedient,

J. W. ROSE.

WILLIAMSBURG, January 17th, 1843.

P.S. Berkshire Pigs, Durham Bulls, and Leicester Lambs on sale. J. W. R.

For The Cultivator.

Sir,

Having noticed in one of the numbers of THE CULTIVATOR some observations on "Curing Hams," I would suggest a method that I have practiced for a number of years, and have never failed in having both good hams and bacon.

To each leg or piece weighing 20 lbs., add one ounce of saltpetre, one pint of Liverpool salt, and half a pint of molasses, put all the ingredients in a tight vessel, and baste the legs with the pickle once a day for a fortnight. They should remain in the pickle about four weeks, when they will be sufficiently cured for smoking or drying.

There should be no water added to the pickle as the ingredients will make sufficient for curing. Hams cured in this way will not come far short of being equal to the famous Westphalian hams.

Hogs sometimes when fattening are subject to a disease called *measles*, to prevent which they should be given sulphur occasionally when fattening, and they will not be troubled with the disease; and it also gives them a good appetite for their food, and will cause them to fatten better.

Respectfully yours'

H. WELLS, P.M.

HENRYVILLE, 29th Nov'r., 1842.

P.S. Should you think the following worth inserting in your Cultivator, you are at liberty to do so:—Little children when first beginning to run about the house, frequently put beans, Indian corn, &c., up their nose, thereby causing much pain and injury to themselves and serious apprehensions to their parents. I will suggest a plan which may not be generally known among your readers, and one which have frequently been practiced with complete success. Stop the mouth and ears close, and insert a quill into the opposite nostril, and give a smart blow and it will fly out at once. H. W.

For The Cultivator.

A CHAPTER ON IMPROVEMENTS.

There is an opinion which very generally obtains among operative labourers, that the introduction of machines, by which the time and labour necessary to the completion of a process are greatly diminished, clashes with their interests. That this, however, is an error, and not of that class to which Cicero referred, when he said, "Not every error is to be called folly," must, I think, upon investigation, plainly appear.

Any object, which has the power of gratifying human desire and is capable of being appropriated, is called *wealth*. He who possesses a great number of these objects, or the means of procuring them, is termed *rich*, and *vice versa*.

Now, as it is, with few exceptions, the wish of every one to become rich, whatever will facilitate the acquirement of the objects of human desire; or, in other words, whatever will have a tendency to place the greatest number and variety of these objects within the reach of the greatest number of persons, by parity of reason, deserves their immediate and unqualified approbation. That labour-saving machinery must, of necessity, have this effect, can, I think, be conclusively shown.

We will suppose, that before the discovery of the art of printing, a copy of the Scriptures would cost fifty dollars, in consequence of the amount of labour necessary to produce it, and that only the man worth a thousand dollars a year could afford to purchase one; and as this class of persons was very small, but few Bibles would be required, and therefore but few scribes employed in their production. But suppose, that after the first successful attempt at printing, half the amount of labour would accomplish the same result; that is to say, fifty men would now produce as many Bibles as one hundred formerly, a Bible could now be sold at half its former price, viz. twenty-five dollars; therefore, the man worth five hundred dollars a year would be able to purchase a copy. Now, if the demand were only doubled by this reduction of price, it is plain that just as many labourers would be required as before, with this difference, that the *manner* of labour is changed; and, therefore, those who were formerly *writers*, if they wish to be engaged in the production of the same commodity, must now learn to be *printers*.—and this, I apprehend, is the chief difficulty in every case where improvements are complained of: the nature of this difficulty I shall consider presently. It is evident, from the following considerations, that the demand for Bibles will be *more* than doubled, in consequence of the reduction of price. In the first place, the class worth one thousand dollars a year, in every age and of every nation, has been, and is, less numerous than the class worth five hundred

dollars; and as each individual of the latter class is just as able to purchase a Bible, since the introduction of printing, as one of the former class previously, it follows that the demand will be more than doubled, for that reason. But this is not all: there are a great number of classes between those worth 1,000 dollars and those worth 500 dollars, as 600 dollars, 500 dollars, &c., who can also become purchasers and as each of these classes is larger than the first, every one must see that the demand will be increased infinitely; add to this, the fact, that those who before could only afford one Bible, will now probably purchase *two*; and then, as the supply in every case has a tendency to equal the demand, take into the account the immense number of persons that will be required to procure rags to make paper, others to construct printing-presses, to manufacture types, and to perform all the various kinds of labour necessarily connected with the creation of this product, and I think the proposition, that the use of machinery has a tendency to increase the number and wages of labourers in that very department of industry in which they are employed, will appear somewhat less paradoxical than may have been supposed.

Nor is the case I have stated exaggerated, or fictitiously drawn; it is the fact, or rather, it is less than the truth. To say nothing of the incalculable value of the Word of God, religiously considered, and of the incalculable benefit conferred upon society by those improvements, which have increased the productiveness of human industry to such an extent that this inappreciable treasure is placed within the reach of the poorest of the poor; without any reference to this, the illustration, in so far as it shows a manifest *tendency*, is applicable to every other case.

In regard to the objection, that by a change in the manner of labour, a few are thrown out of employment, it need only be said, that this intelicity is no other than that which belongs to the tenure of all subsidiary possession. Few men, indeed, pass through life without changing, either from choice or necessity, the nature of their occupation; and therefore the labourer, in this respect, suffers no peculiar hardship.

If a new kind of work is to be done, some one must learn to do it, and will be paid for learning. But if the scribe regard printing as an unwarrantable innovation, and have such a predilection for his own time-honoured profession that he refuse to learn it, he may quarrel with his own obstinacy, but he has nothing else to blame.

W. M. D.

Toronto, January, 1843.

TAMWORTH, Oct. 17.—Dr. Buckland, Dr. Lyon Playfair, the translator of Liebig, and Mr. George Stephenson, the civil engineer, are on a visit to Drayton Manor. Sir R. Peel invited his principal tenants and the leading agriculturists in the neighbourhood to meet them at breakfast, in order that they might profit by the opportunity of personal intercourse with men of so much eminence. A party of nearly thirty persons was assembled. Conversation took place in the course of the morning of the most interesting nature on various subjects connected with the improvement of agriculture—on the necessity of draining, as the foundation of all other improvements—on the use of lime as a manure—on the feeding of cattle—and the importance of warmth as well as food, &c., &c. The party separated about two o'clock, having derived the greatest satisfaction from their visit.—*Eng. paper.*

WINTER.

BY MISS ELIZA COOK.

We know 'tis good that old Winter should come,
 Roving awhile from his Lapland home :
 'Tis fitting that we should hear the sound,
 Of his reindeer sledge on the slippery ground :
 For the wide and glittering clock of snow,
 Protects the seeds of life below ;
 Beneath his mantle are nurtured and born
 The roots of the flowers, the germs of the corn.
 The whistling tone of his pure strong breath
 Rides purging the vapours of pestilential death,
 I love him, I say, and avow it again,
 For God's wisdom and might show well in his train.

NATURE'S REST DURING WINTER.

The days of winter, are the days of nature's rest. In the preceding months she has been occupied in accomplishing the designs of God in labouring for the welfare of the creatures. How rich has the spring been in flowers. How many seeds has it developed! And what an abundance of fruits has the summer ripened, than we might collect them in autumn! Each month, each day, we receive some present from nature. Is there an instant in which she does not either cheer our sight regale our smell, or flatter our taste! And how often does she satisfy the whole at once! Like a good mother, she is busied from the beginning to the end of the year, in providing for favourites, the necessaries, conveniences, and comforts of life. Food, raiment, and delight have all been derived from her maternal bosom. For us, she has caused the herbs to bud; for us, she has loaded the trees with blossoms, leaves, and fruit; for us, she has covered the fields with corn; for us, the vine bears its invigorating fruit; and for us, the whole creation is adorned with a thousand charms. Wearied with so many labours, nature at present reposes; but it is only to collect new strength, which she will by and by employ for the good of the world. But even this repose which nature enjoys in winter, is a secret activity, which silently prepares a new creation. Already, the necessary dispositions are made, that the earth at the close of a few months may find the children she has lost.

If we consider appearances only, we might say, snow cannot be very useful to the earth; and should be rather led to believe, that the hurried cold imparted by it, might be injurious to trees and plants. But the experience of all ages should free us from this prejudice. By this we are taught, that in order to protect corn, plants, and trees from the dangerous influence of the cold, Nature could not give them a better covering than the snow. Although in itself it is cold, it nevertheless shelters the earth from freezing winds: it maintains the warmth which is necessary to the preservation of seed, and even contributes to delate them by the nire with which it is impregnated. Thus, in this early season, God prepares what is necessary for the support of the beings He has formed; and provides beforehand for our nourishment and that of an infinite number of other creatures. Nature is always active, even in the time when it appears to rest; and it renders us real services, even when it appears to refuse them. In this also, let us admire the tender care of Divine Providence.

In how, in the roughest season, Providence is employed for our comfort; and how, without our labour or assistance, it is silently preparing all the treasures of nature. With

such striking proofs of God's beneficent care, who can give himself up to anxiety or distrust? What God does every winter in nature, He also does daily, for the preservation of the human race. What appears to us at first useless or injurious, contributes in the end to our felicity. And often when we believe that God ceases to act for us, it is then that He is forming plans which are hidden from us; and which in being developed, work our deliverance from thus or that adversity; and procure us such blessings as we could not have dared to hope for.

But God has not only designed that the snow shall cover the earth; but that it shall fertilize it. How much care and labour do we use to give that quantity of manure to the land which is necessary? How easy is it for nature to accomplish this end to a certain extent! The snow possesses this virtue, is more profitable than the rain, and than all other manures for the preservation of seeds and plants during winter. When it is thawed by the sun, or gradually dissolved by the warm air, the nire which it contains, deeply penetrates the earth, and vivifies the various tribes of plants.

Here also, O beneficent Creator, we adore thy power and wisdom! The repose of nature, is not less interesting to us nor less worthy of entering into the plan of thy Divine Providence, than the activity which she manifests during the spring and summer seasons. Thou hast combined the different revolutions of the earth: thou hast established the most intimate relations between them: and, with an equal hand, hast distributed labour and rest. It is thou, who hast willed that each sun should vary the seasons of nature, in such times and ways as should be most proper for the perfection of the whole. If we have been so foolish as to blame any thing in the government of the world, we should ask pardon of God for our temerity! and be fully persuaded that all the arrangements of his providence, how contradictory soever they may appear to our feeble reason, are full of wisdom and goodness. Now, that we behold the earth covered with a mantle of snow which cools it, we should meditate upon the good which shall result from it; for, we could not promise ourselves either flowers or fruits, if nature did not enjoy some interval of repose! We could not expect to sing the Harvest Hymn, if now, under the snow, and under the ice, thou were not providing for the fertility of the seed! Yes, Lord! it is thou, who, in granting repose to the earth, enrichest man with a thousand blessings.—*Stevens' Reflections.*

POULTRY.

Poultry, from the French *poulet*. The term includes all the domesticated birds raised for the table; fowls, turkeys, geese, ducks, and Guinea fowls. All these fowls, may be made very profitable to farmers by proper care and feeding but not otherwise. In Canada fowl-yards cannot be made use of in winter, but they are necessary for the fowls during the spring, summer, and fall, and should be attached to every fowl-house. There are certain seasons that it is very desirable the farmer should be able to confine fowls, and this can only be done where there are suitable houses and yards. Fowls of every description, are much more profitable when provided with a fowl-house and yard, than when suffered to go at large. We submit the following selection made

from the article "Poultry" in the Penny Cyclopædia:—

"Those who intend to rear fowls or any kind of poultry should have a distinct yard, perfectly sheltered and with a warm aspect, well fenced, and secure from thieves and vermin, and sufficiently inclined to be always dry, and supplied with sand or ashes for the cocks and hens to roll in, an operation necessary to disengage their feathers from vermin—running water should be especially provided: for the want of water, of which all poultry are fond, produces constipation of the bowels and inflammatory diseases; and for geese and ducks bathing is an indispensable luxury. A contiguous field is also necessary for free exercise, as well as for the supply of grubs and grass to the geese. The fowl-house should be dry, well roofed, and fronting the South, and, if practicable at the back of a stove or stables; warmth being conducive to health and laying, though extreme heat has the contrary effect. It should be furnished with two small lattice windows, that can be opened and shut at pleasure, at opposite ends, for ventilation, which is frequently necessary; and the perches should be so arranged, that one row of roosting fowls should not be directly above another.

A house twenty feet long and twelve feet wide, may be made to accommodate 150 hens at roost. The plan is simply this:—The first roosting perch (rounded a little at the upper angles only, for gallinaceous fowls cannot keep a firm hold on perfectly cylindrical supporters) should be placed lengthways and rest on tressels in each end wall, six feet from the front wall, and at a convenient height, which must depend upon the elevation of the house from the floor, which may be formed of plank, that can be easily swept. Another perch should be fixed ladderways above this, but ten inches nearer to the back wall, and so on, until there are four of these perches like the steps of a ladder when properly inclined, but with a sufficient distance between the wall and the upper one, to allow the poultrymaid to stand conveniently upon when she has occasion to examine the nests, which it is her duty to do every day at least, once, and in the forenoon. The highest of those she can reach by standing on a stool, or step-ladder. By this contrivance the hens, when desirous of reaching the nests, have no occasion to fly but merely to pass from one stick or perch to another. If the size and form of the house permit, a similar construction may be made on the opposite side, care being taken to have an open space in the middle of the room, and a sufficiently wide passage for the attendant to pass along the walls. It is not at all required to have as many nests as hens, because they have not all occasion to occupy them at the same time; and besides, they are so far from having a repugnance to lay in a common receptacle, that the sight of an egg stimulates them to lay. It is however true that the most secluded and darkest nests, are those which the hens prefer.

The nests if built in the wall, are in tiers from the bottom to the top, the lowest being about three feet from the ground, and a foot square. If the laying-chambers consists of wooden boxes, they are usually furnished with a ledge which is very convenient for the hens when rising. But the best receptacles for the eggs are those of basket-work as they are cool in summer, and can easily be washed—they ought to be fastened not directly to the wall, as is generally the case, but to boards fixed in it by hooks, well clenched, and with a little roof to cover the rows of baskets. They will thus be insulated, to the great satisfaction of the hen,

which delights in the absence of all disturbing influences when laying. All the ranges of nests should be placed cheque-wise, in order that the inmates when coming out may not startle those immediately under. Those designing to hatch should be near the ground (where instinct teaches the hen to choose her seat), and so arranged that the hen can easily enter them without disturbing the eggs. Wheat or rye straw is the most approved of for the hedging, being cooler than hay, and less subject to produce lice in the hens, which often annoy them."

We shall in future numbers give the most approved modes of managing poultry, so as to insure profit.

ALTERING MALE QUADRUPEDS.—A correspondent of *The Cultivator*, says:—After commencing operation as a farmer, I observed with regret, the barbarous method of operating on domestic animals, particularly upon swine, and in filling the bag with salt or ashes; but those who were accustomed to this method could not be persuaded to adopt any other practice. The salt and ashes applied on such occasions act as a styptic and prevent bleeding, but they excite inflammation and endanger the life of the animal. I have noticed the agony and uneasiness of pigs after such applications, and have recommended milder ones. In 1840, I lost a large shoat in three days after the operation, and came near losing a steer by bleeding from the cord. The method which I consider preferable, is exhibited in the following instances:—

September 15th, 1842. Altered a large Berkshire boar 34 years old, one that no person would undertake to castrate, lest he should die after the operation. I found a man, however, who was willing to act under my directions; he used a sharp knife and made a smooth cut, and after laying bare the testis, I applied a ligature on the cord, as a surgeon would to a bleeding artery, and then cut the cord below the ligature; the second testis was removed in the same manner, and the wound dressed with a mixture of tar and grease. The operation was soon performed, there was no bleeding from the wound, and the animal seemed to mind it no more than a kick; he eat his allowance daily afterwards, and never fell off in flesh from the operation, and is now (November) a fat hog.

On the same day nine boar pigs which had been weaned some time, were altered without tying the cord, and the wounds rubbed with the mixture of tar and grease. They never lost a meal nor appeared to suffer pain or inconvenience from the operation, and all speedily recovered.

October 7th, 1842. Altered a two year old Galway bull by the same method. Having prepared a waxed thread, the cord was tied, and the testis removed as in case of the boar, with the loss of only a few drops of blood in cutting through the skin. The wound was rubbed with the tar and grease, and the animal after being kept in the barn-yard a few nights was suffered to run in the field. The ligature comes away by the sloughing or rotting of the lower end of the cord, and then the wound heals.

On the same day, another stout Berkshire boar one year old, was operated upon in the same manner, without the loss of blood or flesh. He recovered rapidly, and is now (November 9th) in a fair way to make a heavy porker.

A large quantity of salt taken into the stomach at once is fatal to all animals.

GREAT OX.—The Albany Cultivator presents the engraved likeness of the Syracuse Ox, exhibited at the New-York Fair at Albany, September 28th, 1842, and then said to weigh 4,200 lbs. He is eight years old; his live-weight, February 18th, 1841, was 2,360 lbs. January 16th, 1842, he had gained to the weight of 3,400 lbs. In eight months afterwards he gained 900 lbs. An animal of this kind of the most beautiful proportions—with flesh and fat so laid on as to leave but a mere trifle of offal when the animal comes to be slaughtered—with a glossy skin whose feel is like that of soft silk plush—a delicate head and horns—an eye so mild and intelligent as to assure us that he is an ox of sense and good feeling—presents to the amateur farmer of wealth ample pay for rearing and attending him even though he may have never earned his livelihood in that labour to which other faithful oxen of less body and less beauty are destined.—*Monthly Visitor*.

PREPARATION OF NIGHT SOIL.—The value of night soil, and its preparations, consists in the great quantity of ammonia or nitrogen it contains, in which it exceeds all other animal substances, bones excepted. The following, which we find in *The Farmers' Magazine*, is a plain and easy method of preparing this manure in such a manner that its value shall be fully retained, while the offensive odour is effectually destroyed:—
"To every 100 lbs. of night soil, add 7 lbs. of sulphate of lime (gypsum) in powder; a double decomposition will ensue, and the result will be, instead of sulphate of lime and carbonate of ammonia, carbonate of lime and sulphate of ammonia, the latter a soluble salt that cannot be volatilized. It may now be mixed with other compost, or dried any way thought proper, and applied to the roots of the vegetable, to be again transformed into bread, butter, cheese," &c. It is probable that the mixture of the gypsum, as recommended above, thoroughly with the night soil, and then incorporating it with compost, will be found the best method in which it can be used by the farmer.

USEFUL RECEIPTS.

CHEAP PAINT.—A subscriber wishes us to give a recipe for cheap paint. We have never had much experience in the painting line, whether cheap or dear. The following is laid down in Smith's Art. of House Painting, which is highly recommended. Take off skimmed milk nearly two quarts; of fresh slacked lime about six ounces and a half; of linseed oil four ounces, and of whiting three pounds; put the lime into a stone vessel, and pour upon it a sufficient quantity of milk to form a mixture, resembling thin cream; then add the oil a little at a time, stirring it with a small spatula; the remaining milk is then to be added, and lastly, the whiting. The milk must on no account be sour. Slack the lime by dipping the pieces in water, out of which it must be immediately taken and left to slack in the air. For pure white paint, the oil of carraways is best, because colourless; but with ochres the commonest oils may be used. The oil, when mixed with the milk and lime, entirely disappears, and is totally dissolved by the lime, forming a calcareous soap. The whiting, or ochre is to be gently crumbled on the surface of the fluid, which it gradually imbibes; and at last

sinks: at this period it must be stirred in. This paint may be coloured like distemper or size colour, with fevigated charcoal, yellow ochre, &c., and used in the same manner. The quantity here prescribed is sufficient to cover twenty-seven square yards with the first coat. The same paint will do for out door work by the addition of two ounces of slacked lime; two ounces of linseed oil, and two ounces of white Burgundy pitch; the pitch to be melted in a gentle heat with the oil, and then added to the smooth mixture of the milk and lime. In cold weather it must be mixed warm to facilitate its incorporation with the milk.—*Mec. & Far.*

DISTEMPER IN DOGS.—We published in a late number a remedy for this disease, copied from the Southern Planter. We have often succeeded in curing the disease, by administering doses of salt as recommended therein; we have, however, whenever we discovered a constipation of the bowels to supervene, given every other day boluses of castile soap, with the very best effect. If castile soap cannot be had, brown soap will answer equally well, the object being action upon the intestinal viscera. In obstinate cases, where the discharge from the nostrils is obstructed, or the cough heavy and tight, we have always found the patient greatly relieved by introducing a seton in the loose skin just back of the head; which operation is performed by threading a coarse darning needle with a double thread of coarse yarn, and running it through the skin and confining it by a tie. The thread must be moved every morning to keep up irritation, and encourage a discharge of the viscid matter, which should be daily washed off with a little warm water and soap.—*American Farmer*.

TO PRESERVE BACON FROM FLIES.—*Messrs. Editors.*—My simple mode of preserving bacon may be of use to some of your readers. I lay it down in charcoal, I find it preserved from the fly and kept perfectly sweet, without any further trouble than putting the coal between the several layers. I do not even pound the coal up fine, but take it from the coal heap just as it comes, coarse and fine together. When I want a cut of bacon, I take it off, and put the remainder back, or throwing some of the "fine" charcoal on the fresh cut surface, hang up the remainder, and so cut from it until it is all consumed. The flies will not touch it. The coal dust is easily washed off before cooking, and the coal in which it has been packed, is as good for burning as ever.—*Alb. Cultivator*. R. JUNIOR.

TO WASH WOOLLEN GOODS.—The art of washing woollen goods so as to prevent them from shrinking, is one of the desiderata in domestic economy worthy of being recorded, and it is therefore with satisfaction that we explain this simple process to our readers. All descriptions of woollen goods should be washed in very hot water with soap, and as soon as the article is cleansed, immerse it in cold water, let it then be wrung and hung up to dry.—*Sel.*

TO MAKE YEAST.—Two middling sized boiled potatoes, add a pint of boiling water and two tablespoonfuls of brown sugar. One pint of hot water should be applied to every half pint of the compound. Hot water is better in warm weather. This yeast being made without flour will keep longer, and is said to be much better than any previously in use.—76.

BERKSHIRE HOGS.

Mr. H. M. Wakeman of the village of Yorkville, one mile north of this city, slaughtered in the month of December last, two full bred Berkshire pigs, aged 7 months and 5 days—the one weighed 295 lbs. and the other 225 lbs. net weight. They were purchased from Mr. Severn, Brewer, of Yorkville—who is well known to many of our readers, as a successful breeder of this our favourite breed of swine—when ten weeks old, and required no extraordinary care or feed, to fatten.

A writer in the *Farmers' Gazette*, Connecticut, in eulogizing the English breeder, says they have given the Berkshire swine size, greater than an Alderman or Lord Mayor of London, fine formed symmetrical limbs, fine thin glossy hair, soft lady like skins, and great hardness of constitution—made them prolific breeders, best of nurses, of thrifty growth, early maturity, easily kept on grass, and will fatten at any age. Their dispositions, quiet and powers of endurance great, and their meat is of the best kind, lean where they should be, and fat where you want it; hams and shoulders lean, and delicate and broad sides the best of mess.

From our knowledge of Berkshire swine, we feel no hesitancy in bearing out the above writer in his remarks, and would recommend every farmer, to engraft either the Berkshire improved Durham, Yorkshire, or some of the breeds that are celebrated for their propensity to fatten at an early age, on their common breeds. A single cross will satisfy them that the difference of breed does not consist merely in the difference of keep. The day is not far distant when fattening pork for the British market will be found a profitable business for the Canadian agriculturist. The success of which, however, will much depend upon the skill practiced in feeding and curing. As a public Journalist, we will not lose sight in giving such information on these two important points, as will enable the Canadian agriculturists to compete in a very few years, with the very celebrated Dutch and Irish pork curers. In the mean time, we beg to suggest to those who intend to engage largely in the business, the propriety of selecting a breed of swine as above, without delay. The most valuable hams and bacon that are sold in the British market, are made from pork, from eight to ten months old, averaging in weight from 160 lbs. to 220 lbs. each. By adopting this system, a great advantage will be gained, over the old plan, both in feed and trouble, as no store hogs need be kept during winter, unless it be breed sows, which should be managed so that they would drop their pigs during the month of March or the first of April.—*Pub.*

PAGE'S PORTABLE SAW MILLS.

We conclude on the 19th Page, the extract from the Pamphlet alluded to in our last, which will give an accurate description of the above important machine. If two or three enterprising young men should join in the purchase of one of Page's mills, and travel through the back parts of the country, they would find that it would be a most lucrative undertaking, and would be of an incalculable advantage to the settlers. Many instances have come under our notice, where settlers have had to draw their logs from 8 or 10 miles to the Saw Mill, and after waiting three or four months would be able to get their timber

—which, of course, would have to be drawn over the same ground, and perhaps at the most busy season of the year. By introducing Portable Saw Mills, all this difficulty will be obviated, without injury to any one, as it is not probable that they would be brought into use in the immediate neighbourhoods of stationary Saw Mills. There will be before the month of July next, upwards of two hundred miles of plank road under contract, most of which will, it is supposed, be completed as soon as practicable. We have not made a close calculation of the costs of planking such roads, but would suppose the plank alone would cost £200. per mile, as much of the plank would have to be drawn from six to ten miles: whereas by the aid of Portable Mills, they could in most cases be had within a mile of the line of road, and in many instances on the immediate line. We may suppose at a very reasonable estimate that the advantages derivable from Portable Mills would be equal to £50. per mile, which would pay the whole expense of such Mills and leave a handsome profit to the country besides.

We have written, as we have stated elsewhere, to Mr. Page, and offered our services as Agent to have them introduced into this Province. Any person may be put in possession of further particulars by writing to the Publisher of *The British American Cultivator*, post-paid.

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Articles that appear over *Publisher*, in the present and future Numbers of *The Cultivator* are, and will be, written by the *Publisher*.

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TORONTO MARKETS:

For the Month ending 31st January, 1843.

	S.	D.	S.	D.
Flour Farmers', in barrels.....	16	3	a	18 9
Oatmeal.....per barrel.....	12	6	a	14 0
Wheat.....per bushel.....	2	10	a	3 3
Rye.....do.....	2	0	a	2 3
Barley.....do.....	1	3	a	1 8
Oats.....do.....	0	10	a	1 0
Pease.....do.....	1	6	a	1 8
Timothy.....do.....	3	2	a	3 6
Clover Seed.....do.....	30	0	a	35 0
Pork.....per 100lbs.....	12	6	a	17 6
Beef.....do.....	12	6	a	17 6
Mutton and Veal (qr.).....per lb.	0	3	a	0 4
Pork.....do.....	0	2	a	0 3 1/2
Butter.....do.....	9	8	a	9 0
Turkeys.....do.....	2	0	a	3 2
Geese.....do.....	1	3	a	2 0
Fowls, per pair.....	1	0	a	2 0
Ducks, per pair.....	1	8	a	2 0
Eggs, per dozen.....	0	9	a	1 0
Potatoes, per bushel.....	1	3	a	1 6
Hay, per ton.....	45	9	a	55 0
Straw, do.....	25	0	a	30 0
Salt, per barrel.....	10	0	a	11 3

PUBLISHED MONTHLY.

WM. EVANS, EDITOR.

W. G. EDMUNDSON,

PUBLISHER AND PROPRIETOR.

To whom all Orders and Communications must be Addressed, (Post-paid).

TERMS—ONE DOLLAR PER ANNUM, PAYABLE INVARIABLY IN ADVANCE

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COPIES.	DOLLARS.
13 for.....	5
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70 for.....	50
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RATES OF ADVERTISING.—Four Pence a Line for one insertion, and Two Pence a Line for every subsequent insertion.

Printed at the Star and Transcript and General Advertiser Office, 160, KING STREET, TORONTO.

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