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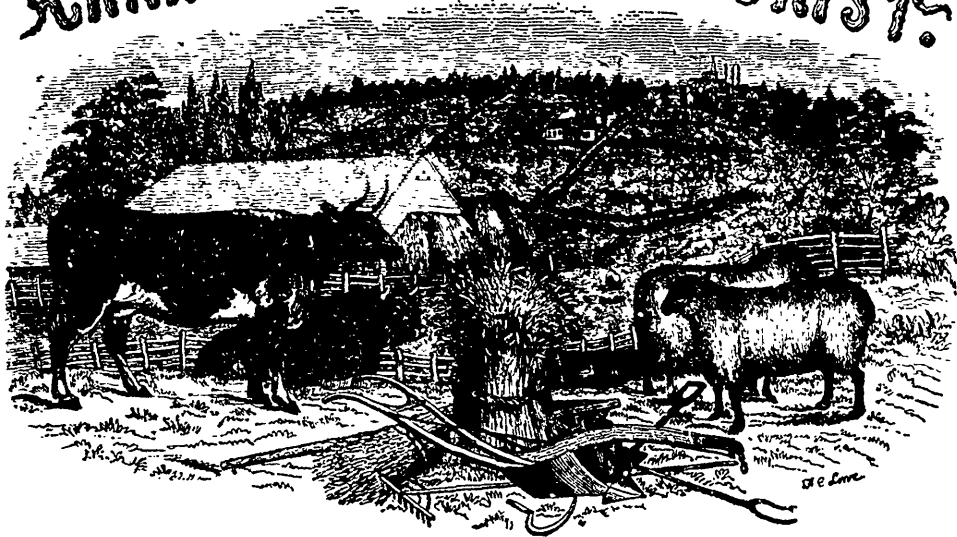
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CANADIAN AGRICULTURIST.



"The profit of the earth is for all; the King himself is served by the field."—ECCLES. 5, ix.

GEORGE BUCKLAND, }
WILLIAM McDUGALL, }

{ EDITORS AND
{ PROPRIETORS.

Vol. I.

TORONTO, FEBRUARY 1, 1849.

No. 2.

This number of the *Agriculturist*, and numbers 2 and 3, will be sent to all subscribers, who have paid for the year 1848, without further charge. The proprietors adopt this course, to make up the deficiency in the volume for the year just ended. The remaining 9 numbers of the volume for 1849 can be had for 3s. 9d., if paid before the 1st March next. Subscribers, who wish to discontinue, need not, therefore, return the paper, as it will not be sent beyond the third number, unless re-ordered and paid for. Three and nine pence being an inconvenient sum to remit by mail, those who intend to continue their patronage may leave the amount with their Post-Master, taking a receipt, who will, no doubt, undertake to remit to us, as soon as he gets a sum which he can enclose in a letter. Post-masters will get a copy of the *Agriculturist gratis*, as some compensation for their trouble; and we trust they all, without exception, will take an interest in promoting the success of our publication.

TRAVELLING AGENTS.—Mr. T. M. MUNN is our Travelling Agent for the Eastern section of the Province; Mr. PALMER, for the Northern; and we hope soon to announce one for the Western.

LOCAL AGENTS.—Any person may act as a local agent. We hope that all those who have heretofore acted as such, will continue their good offices, and that many others will give us their influence and assistance in the same way. Any person who will become a local agent may entitle himself to a copy by sending four subscriptions. Those sending twelve and upwards will be supplied at 3s. 9d. per copy.

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January, 1849.

MESSRS. DENISON & DEWSON, ATTORNEYS, &c.

New Market Buildings, Toronto.

January 26, 1849.

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Toronto, Jan. 26, 1849. 1-tf

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J. HURLBURT, A.M.
Principal.

Toronto, 14th December, 1848. 1

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G. MONRO.

Toronto, January, 1849. 1-am

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Toronto, January, 1849. 1-6m

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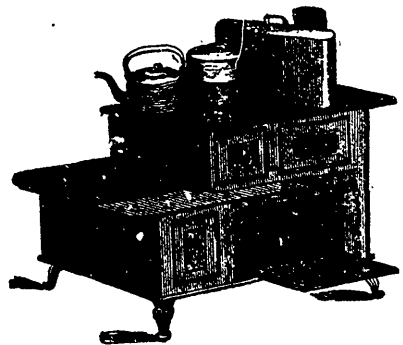
Toronto, January, 1849. 1

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G. MONRO.

January, 1849. 1-2m

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G. MONRO.

January, 1849. 1-2m



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J. R. ARMSTRONG,
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HAS constantly on hand, COOKING, BOX, PARLOR, and COAL STOVES, of various patterns and sizes, very cheap for Cash.

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Toronto, Jan. 26, 1849. 3

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THE Subscriber will pay the highest Cash prices for 1000 Bushels clean Timothy Seed; 100 Bushels clean Spring Tares; 100 White Marrowfat Pea; 25 Bushels Flax Seed.

JAMES FLEMING,
Seedsmen and Florist, Yonge Street.

Toronto, Jan. 1, 1849. 1

THE
CANADIAN AGRICULTURIST.

Vol. I.

TORONTO, FEBRUARY 1, 1849.

No. 2.

WINTERING LIVE STOCK.

There is no subject requiring the strict attention of the farmer, at this season of the year, so much as the proper management of his stock; and there is none perhaps more commonly neglected. The inconvenience and loss arising from such neglect, cannot be easily ascertained. Many a well-bred animal, from winter exposure and stinted food, has been rendered worthless. Indeed, the general character of our live stock, particularly cattle, including like-wise sheep and swine, has suffered materially from the want of proper care and attention, especially during the winter months.

We believe that the climate of Canada is not unfavourable to the rearing of live stock; and it is a well ascertained fact, that most animals here are less liable to disease than in the mother country; a fact that will appear surprising, when it is considered how little attention they receive. Our climate, it is true, is somewhat extreme, the thermometer having a very wide range, but the atmosphere being generally clear and dry, there is, consequently, an absence of those physical conditions—such as dampness and fogs, which appear in other countries so unfavourable to the health and comfort of animals. The notion which generally obtains at home, respecting the extreme severity of our Canadian climate, is very much exaggerated, and, from experience, we find the difference between the climate and agricultural capabilities of Upper Canada and the British Islands much less than we anticipated.

The two great essential conditions, of the proper management of live stock in winter, are *shelter and food*. These belong to that large class of truths, which, however obvious, require to be constantly repeated. A large and substantial barn, with adequate sheds and yards, thoroughly protected against wet and cold, and combining the necessary conveniences for feeding and watering cattle, are absolutely necessary on every well managed farm. In a country where timber is plentiful and cheap, and of a kind easily worked, there are but few farmers that might not in a few years obtain most of these requisites. We have seen farmsteads in

Canada, that would be thought highly creditable in much older countries; but they, it is true, are but few and far between. We went over a farm the other day, consisting of but little more than a hundred acres, having almost as complete a suite of buildings and offices as we ever saw: a capacious barn, with fixed thrashing mill, chaff cutter, turnip slicer, furnace and boiler, with warm sheds, and well littered open yards, convenient piggery, hen house, &c., all inhabited by thriving and happy tenants, in much larger numbers than could be maintained in the same condition under other circumstances. We, therefore, earnestly recommend our readers to pay the utmost attention to the proper sheltering and feeding of their domesticated animals; being convinced that such attention will receive an ample return. Animals thus cared for consume less food, and maintain a healthier condition. It is, however, of importance to observe, that live stock require, even in the severest weather, a free circulation of pure air. Ill ventilated buildings, therefore, may prove as injurious as undue exposure. The management of sheep in particular requires that they should not be crowded together; and the utmost attention should be paid to regular feeding, cleanliness, and ventilation.

It may not be uninteresting to some of our readers, if we state briefly the philosophy of what we have been recommending. It is a well known fact, that the temperature of animal beings is nearly uniform at all seasons and in all climates. According to a recent theory of Liebig, this temperature, or *animal heat*, is kept up in the living body by the process of respiration; the *oxygen* of the air uniting chemically with the *carbon* of the blood, thus causing a sort of combustion or burning, the result of the combination being carbonic acid gas, a kind of dense air often found in wells and mines, and ill-ventilated sleeping rooms. Whenever this kind of air largely preponderates, neither animal life nor combustion can be supported. Now this carbon is furnished to the blood by the food which the animal eats, and, if in a larger quantity than is required to sustain the necessary degree of animal heat, the balance

becomes deposited over the body in the shape of fat.

Here we have an explanation of the fact, that animals well sheltered against cold, consume less food in maintaining a given condition. The animals that are too often to be seen, during the rigours of a Canadian winter, shivering against the sides of a barn, or the corners of a field fence, require all the food they can get to maintain animal heat, and even that in a very insufficient degree, leaving nothing to be converted into milk, flesh or fat. Adequate shelter, with very moderate feeding, would carry stock through the winter in a healthy and comfortable condition, and prevent the sad spectacle of so many living skeletons in the spring; a fact no less inimical to the feelings of humanity, than it is to the real interests of the farmer.

We have been so much pleased with a series of articles on agriculture, now publishing in *The Church*, written evidently by a practical farmer, that we have no hesitation in furnishing our readers with an extract or two in reference to our present subject.

"In feeding straw in the open yard economy is strictly necessary, to the extent of being sure that the supply will hold out till spring; but any further than that it is not required, as the more of it that is converted into manure the better. The ordinary way of feeding, is that of giving it in racks; but there is, perhaps, no better mode than to distribute it about the yard equally in small heaps. Fed in this way, the cattle interfere with each other less in feeding, and the manure formed will be of a more uniform quality. In none of the domestic animals is the domineering propensity so strong as in horned cattle; particular attention is, therefore, required to prevent the strong from injuring the weaker individuals. The master animals will often habitually neglect their own food, for no other purpose than to drive the weaker ones from theirs. These being thus prevented from even taking their food unmolested become dispirited, and scarcely attempt to feed in presence of the others; than which there can be no more unfavourable condition for thriving. And, as they can only venture to take their fodder after the others have done, there is nothing but the coarsest part left for them, when, on the contrary, they should have the best. Much more of the miserable order, in which many of the animals appear in spring, is owing to this cause alone, than is usually suspected by their owners.

"The care of sheep is also an important part of farm management in winter. More complete shelter from the weather than they are usually allowed is necessary to keeping them in good order. They should be kept at night, and in rough weather, under close sheds, open to the south. For food they require the best hay, on which they will thrive very well, though the addition of a few turnips will be of much service to them. It is necessary to the economical use of hay, to give them but a small quantity at a time, and a number of times each day, as they will not eat it after it has remained long before them. Feeding them on grain, is not generally to be recommended, as it causes the wool to

become loose, and is thought by some to render the successful lambing of the ewes uncertain. Pea-straw, however, that has been cut before too ripe, and partially thrashed, makes an excellent fodder, and is much relished by sheep. In this country sheep are not much subject to those diseases which often prove so fatal in some other places. By providing them with proper food and shelter, and avoiding keeping them much in low or wet ground, much need not be apprehended from that source. They frequently suffer, however, very much from ticks. Sheep, especially the spring lambs, will often die in winter from the misery occasioned by these vermin. If found to be troubled in this way, some wash or preparation should be used to destroy the insects. There is, perhaps, nothing better for this purpose than a moderately strong decoction of tobacco poured into the skin, the sheep being laid on its side, and the wool parted in several places, when the operation is performed. Three or four pounds of tobacco will form sufficient liquid for about fifty or sixty sheep. We have often known this remedy applied with complete success."

In drawing this article to a close, we may just observe, that it has been found from experience, in a country so far distant from the sea as Upper Canada, the free use of salt to all domestic animals is indispensable. It not only serves as a healthful condiment, but renders the animals quiet and easily manageable; conditions very necessary to their thriving. We beg to direct the attention of our readers to the plan of a piggery and cooking-house, found on another page. There cannot be a greater mistake, than the common opinion and management of swine, if management it can be called. Swine require vigilant attention to maintain purity of breed; and there is no class of animals that would better repay for the most diligent attention, with regard to feeding, warmth and cleanliness, matters, however, too commonly neglected.

ON THE APPLICATION OF SCIENCE TO AGRICULTURE.

NO. II.

We come now to consider, whether a knowledge of the physical sciences—such for example as chemistry and geology—is *essential* to the successful prosecution of farming pursuits; or in other words, to the advancement of agriculture as a practical art? In relation to this question there exist many mistakes, and expectations have been held forth by scientific men and amateur farmers, which are never likely to be realised. That there is a connection, near and intimate, between science and agriculture, has been stated and proved in our previous article. It now remains to inquire, whether scientific knowledge, in the sense in which the terms are commonly understood, is an absolutely requisite acquisition to the practical farmer for the further improvement of his important art?

There can be no doubt, that the aid of the experimental sciences is necessary to the formation of a correct theory of agriculture. Not a step can be taken in the cultivation of plants or the rearing of animals, the explanation or rationale of which does not involve some important doctrine of chemistry or physiology. Now although such knowledge may be indispensable to the advancement of agriculture as a science, yet it by no means follows that an intimate acquaintance either with chemistry or physiology is necessary to the improvement of agriculture as an art. In illustration of this, let us appeal to facts. What single improvement in farming, among the many that have been made within the last half century, can be legitimately traced to mere scientific investigation? We cannot call to mind a single case. The improvements in breeding cattle—the introduction of turnip culture and grain crops—more suitable systems of rotation, adapted to different conditions of soil and climate; nay, even the discovery and application of most of the artificial manures, have all originated with, and have been carried out by practical men. And this is true, to a great extent, with all the principal arts of social life. The manufacture of porcelain, staining glass, dyeing, bleaching, calico-printing, &c., every one of which is strictly dependent on chemical laws, and most of which have been astonishingly improved and cheapened by the aid of modern chemistry; yet they all existed, and some of them in a comparatively perfect state, before chemistry settled down into a science. Indeed when we consider the very few years only with which even the name of this interesting and most important science has been associated with agriculture—when we call to mind that it was only about forty years since, that the immortal Davy first read his celebrated lectures before the English Board of Agriculture; and that afterwards the subject was almost allowed to go to sleep, both at home and abroad, until Liebig, some eight or ten years since, revived it from its slumbers, in his admirable Report addressed to the British Scientific Association; when these facts are impartially considered, the wonder is, not that chemistry has done so little for agriculture, but that in so brief a period, and amidst so many discouragements, it should have accomplished any thing of importance at all.

An imperfect analogy is sometimes instituted between agriculture and the arts, which tends to lead sanguine minds to indulge in visionary expectations, and say hard things against what is commonly designated the dulness and stupidity of practical farmers. The application of some of the numerous discoveries of modern chemistry to the arts of life, whereby production has been wonder-

fully cheapened, and not unfrequently the quality equally improved, has been insisted on as proof and illustration of what may be hoped from agriculture when guided by the superior light of science. But there is a great fallacy involved in this reasoning. The processes of the manufacturer and those of the farmer are placed in a very different position with regard to the available aids of science, and consequently what can be predicated of the one, may not and indeed frequently cannot be of the other. For example: the manufacturer carries on his operations within doors; both science and art being in his case sufficiently understood and advanced as to enable him to control all the elements needful to the result. Not so the farmer; his operations are conducted out of doors, and subjected to all the uncontrollable elements of that variable and fickle thing called *weather*. Besides the analogy fails in regard to the nature of the products. The manufacturer is concerned in producing merely *inorganic* substances: he employs science just in that capacity in which she is enabled to afford the surest and greatest aid—that is, the production of new substances by the well-known laws of chemical combination. His is purely a matter of simple calculation. How widely different is the case of the farmer. His products are *organic*—that is, things produced by the wonderful and mysterious power of life—a force which no science can explain, and no human power control. Now it so happens, that organic chemistry, or the chemistry of life, is the most recondite and infinitely less advanced portion of that comprehensive science; a sure and broad foundation for the noble structure that will hereafter be erected, cannot as yet be said to be firmly laid; and after all, the nature and extent of the vital principle will most probably continue beyond the reach of mortal ken; yet this is precisely that department of chemical science which applies to the theory and practice of the farmer's art.

We come then to the conclusion, that a knowledge of chemistry, geology, &c., is not *essential* to the successful improvement of agriculture; but there can be no doubt that such knowledge, possessed by judicious and practical farmers, might form a valuable and important *auxiliary*. It should always be borne in mind, that agriculture is an art *per se*; and that accurate analyses of soil and organic products, involve duties belonging to the chemist rather than the farmer—they belong to the laboratory and not to the field. It is no doubt desirable that practical skill in husbandry should be combined with high scientific attainment, and the result would be unquestionably beneficial. Yet such cases, even in the most advanced countries, must necessarily be very few; the strict attention

to the mechanical and daily routine of business, by the practical farmer, is not compatible with that leisure and those habits of mind, which are essential to the successful prosecution of the physical sciences. Nevertheless, we advocate the propriety of introducing, as far as practicable, agricultural chemistry, geology, animal and vegetable physiology, and indeed whatever has a reference to rural affairs, both into our colleges and common schools. In a country like Canada, too much cannot be done to educate the rising race of our farmers, and thus to elevate the standard of that important art on which alone depends so much of the wealth and prosperity of our country. But let no one imagine, that our youth can be made into efficient farmers, either in a school or college; the instructions there given may be highly advantageous afterwards, if a proper use be made of them: but it must be in the field, behind the plough, amidst the numerous and not unfrequently complicated duties of the farm, the real art of culture must be learned, if it be learned in reality and to good practical purpose. Experimental farms in connexion with educational institutions might no doubt be made highly beneficial; but then they must be conducted by men who are practically acquainted with farming pursuits, possessing extensive experience, as well as general scientific attainments. To attempt otherwise the teaching of farming, would only end in disappointment. Practice must be the test of science.

That we are not singular in the opinions above expressed, we will quote two of the highest authorities within the wide range of our modern agricultural literature. Mr. STEPHENS, the very able editor of the *Scottish Journal of Agriculture*, in the most elaborate work on practical husbandry that ever issued from the press (*The Book of the Farm*, vol. 1. page 83), says—"The only other science which bears directly on agriculture, and with which the pupil farmer should make himself acquainted, is chemistry; that science which is cognizant of all the changes in the constitution of matter, whether effected by heat, by moisture, or other means. There is no substance existing in nature, but is susceptible of chemical examination. A science so universally applicable, cannot fail to arrest popular attention. Its popular character, however, has raised expectations of its power to assist agriculture, to a much greater degree than the results of its investigations yet warrant. It is very generally believed, not by practical farmers, but chiefly by amateur agriculturalists, who profess great regard for the welfare of agriculture, that the knowledge derived from the analysis of soils, manures, and vegetable products, would develop general principles, which might lead to the establishment of a system of

agriculture, as certain in its effects as the unerring results of science. Agriculture, in that case, would rank among the experimental sciences, the application of the principles of which would necessarily result in increased produce. The positive effects of the weather seem to be entirely overlooked by these amateurs. Such sentiments and anticipations are very prevalent in the present day, when every sort of what is termed scientific knowledge is sought after with an eagerness as if prompted by the fear of endangered existence. This feverish anxiety for scientific knowledge is very unlike the dispassionate state of mind induced by the patient investigation of true science, and very unfavourable to the right application of the principles of science to any practical art. Most of the leading agricultural societies, instituted for the promotion of practical agriculture, have been of late assailed by the entreaties of enthusiastic amateur agriculturists, to construct their premiums to encourage only that system of agriculture which takes chemistry for its basis."

The professor of agriculture in the university of Edinburgh, Mr. Low, to whose able pen the world is deeply indebted for much valuable instruction on rural subjects, observes in his excellent treatise, entitled "*Elements of Practical Agriculture*,"—a work that embodies the substance of his lectures to his agricultural class,—“A knowledge of the intimate chemical constitution of the soil is highly worthy of being obtained, and the subject would deserve to be pursued by men of science, were there no other aim or result than the resolving of chemical and physiological questions. But too much must not be looked for from such inquiries, as teaching the farmer new methods of practice. The farmer knows, for the most part, better than the chemist, when a soil is good or bad; when it is improvable by ordinary means, and when it is too barren to repay the expenses of culture; and he knows better than the chemist how to keep it clean, dry, and as productive as the means at his command will allow, with a due reference to the return as compared with the expenditure. But this latter knowledge is not derived from the laboratory but the fields, and is a branch of a practical business, in which chemistry can render little aid. Whatever results chemical analyses of the soil may hereafter conduct us to, it must be admitted, that as yet they have been interesting to the scientific inquirer, rather than useful to the farmer. Every garden and well-cultivated field shews that the soil may be brought to its maximum of fertility without dependence on any conclusions yet arrived at by the physiologist and the chemist. Perhaps not more than a dozen of chemical analyses of soils have yet been made in Europe, sufficiently exact to aid the pur-

poses of science, while the great mass of those which are made, and communicated to farmers as something necessary or useful to them, are equally worthless for science and practice." (p. 23.)

It is proper to remark, that since this edition of our author's work, published in 1843, a very large number of exact chemical analyses of soils and their products have been made in Britain, and many other countries of Europe; and among this useful class of pioneers, the name of JOHNSTON, the reader in chemistry in the *University of Durham*, and the consulting chemist of the *Highland Society*, stands eminent'y and most deservedly distinguished. Never shall we forget the lucid and interesting manner in which that able teacher is apt to expound the most difficult doctrines of organic chemistry, not only to the comprehension of his regular pupils, but to large numbers of farmers promiscuously. There can be now no doubt, that the high talent and deep and exact research which scientific men have brought to bear on agriculture, especially during the last dozen years, have thrown an interesting light on many important, yet little-understood processes; those labours, to say the least, have been eminent by *suggestion*, and for the future they promise abundant fruit. The full realisation of so desirable a harvest, must mainly depend, not upon confounding the very different relations of the chemist and the farmer, but by the harmonious blending of their joint efforts. Science *with* practice cannot fail to advance continually the agricultural art.

We are tempted to give our readers another extract from *Professor Low's Elements* (p. 44), in reference to the practical aid of geology to agriculture, a point on which much hardy conjecture has been hazarded: "We see, therefore, that the mere knowledge of the geological formations of a country, does not afford the data for determining the nature and properties of the soils in the manner required for practice. Speculative writers, indeed, have maintained, that a knowledge of geology is not only eminently useful to the practical farmer, but even necessary to enable him to distinguish soils, and adopt the suitable means of improving them. It is surprising that such statements should be hazarded. The farmer, as all experience shews, can distinguish soils by their agricultural characters much more certainly and readily than the geologist can by their geological; and it does not appear in what manner geology can give that knowledge to a farmer which can enable him to cultivate and improve his land. The farmer, it is manifest, must regard the soil which he has to till, not in its relations with a whole district, but with reference to its own characters and fertility. He may find the soil, not only of a single farm, but of a single field,

varying in every degree; and it will be necessary that he adapt his management to these variations, whatever be the geological position in which they may be placed. It were greatly to be desired, indeed, that the practical farmer could acquire a knowledge of geology, and learn to read a portion of that marvellous history, which is written on every rock and mineral bed around him. Such a knowledge would give a charm to rural pursuits, and connect a liberal and interesting study with the observations of daily life; yet such a knowledge, however excellent, will not enable the farmer to discriminate soils better for the ends of practice, much less enable him to cultivate them with greater skill, which is knowledge he must derive from agriculture, and not from geology."

There is nothing, we conceive, really inconsistent in the remarks just quoted, and what was advanced in a former article. Geology, although it may not enable the farmer directly to discriminate soils on a limited area so as better to meet the wants of practice, yet a knowledge of the earth's stratification, of the composition of rocks, their angle of inclination, &c., will often be found of very great service to the farmer in draining and otherwise improving his lands; and such information is essentially requisite in order to direct with efficiency and economy all mining and many civil engineering operations. What we chiefly wish to impress upon the minds of our readers in this paper is, not to rely too much on any deductions of science, however plausible they may appear, until they are confirmed by their only certain test of experience. This caution is more particularly needed in a country where labour is dear and produce cheap. We have known several amateur and would-be-scientific farmers, at home, but seldom one that could make it pay. There can be no doubt that in Canada an immense scope exists for agricultural improvement. Much might be done, with adequate judgment and means, that would afford a remunerating return. But let no one come to this country with a system already cut and dried, however correct in the abstract may be its science, or however well adapted it may have proved on other soils and under different skies, for here it is ten to one but it would prove a failure. It is true that the principles of agriculture are the same throughout the world, but they require an endless series of modifications in practice to suit the constantly recurring variations of climate and soils, to say nothing of the exchangeable value of produce; and this is a species of knowledge, which *experience only can supply*. Let every young farmer then, who is about to try his skill and strength in a new field, adopt in the first place the general practice of the district, and deviate from it only as increasing

knowledge and experience dictate. In all countries this is beginning at the right end. It has the advantage of being a safe road, and in the result will prove the most profitable.

The remaining papers in this series will comprise a popular view of the leading principles of Agricultural Chemistry, adapted to the comprehension and wants of our agricultural readers; and while we hope to interest and improve their minds, we trust that we shall not at least mislead them on any material points of practice.

SMITHFIELD CHRISTMAS CATTLE SHOW.

This annual exhibition of fat cattle came off as usual at the Bazaar in Portman Square, on the 7th and 8th of December. It would appear from the reports which have reached us, that the late Exhibition was upon the whole eminently successful.—Although the mere number of animals does not appear to have been much above that of previous years, yet their quality was in some important respects decidedly superior. The different classes were better filled up. There has evidently been of late years among the exhibitors at the Smithfield Show, a disposition to pay more attention to the useful and symmetrical qualities of the animals, than to excessive, and we may add, unprofitable fattening. The late show has surpassed all previous ones in this important improvement, the object being not the mere production of the bulkiest and fattest animals, but such as possessed the largest weight of wholesome food, with the least amount of waste.—We have seen at former Smithfield exhibitions, animals so excessively fat that several of the points and characteristics of the different breeds were completely hidden. It would appear that the recent improvements have been effected chiefly by the feeder, for most of the prizes have been awarded to that class. The restrictions as to the mode of feeding and the amount of food consumed by each animal have been dispensed with, being found either impracticable or unsatisfactory in their application. In sheep, both long and short woolled, the exhibition was good; and among the successful candidates we notice the old familiar names of Webb, Stonam, Hitchman, Earl of Leicester, and that zealous untiring improver of agriculture, the Duke of Richmond. The pigs were also good—some specimens of the Chinese breed being particularly fine. Three Berkshire pigs are said to distance all competition. They were bred and fattened by Mr. Pusey, M. A., the well known agriculturist. We had almost omitted to say that HIS ROYAL HIGHNESS PRINCE ALBERT, (who,—many of our readers may not be aware,—is an extensive practical farmer,) was as

usual a successful competitor. A keen competition took place for many of the animals, and high prices were obtained. The exhibition of seeds and implements was very extensive, including several novelties. Among the latter is the application of *gutta percha* to agricultural purposes. We will conclude this brief notice in the words of an eye-witness. "The show, particularly in sheep and pigs, surpassed any of its predecessors; and the perfection to which these classes have been brought, reflects the highest credit on the enterprise, skill, and science of the agriculturists of England. It is impossible to overpraise this part of the Exhibition; and as usual, the Prince Consort, the Duke of Richmond, and other zealous agriculturists, who have done so much to give an impetus to the farmers of England, sent numerous and meritorious animals."

AGRICULTURAL SOCIETY OF LOWER CANADA.

We have received the *January* number of the *Journal and Transactions of the Lower Canada Agricultural Society*, which contains several valuable articles, and some interesting information. We agree with the editor in attributing much of our present embarrassments to the slovenly and unskilful way in which our agriculture is too generally conducted. It is true that in Upper Canada we have many exceptions; we know of farms that are well managed, and yield a profitable return; yet it must be acknowledged, that in general, we are lagging behind. The following sentence contains an important truth, which all who feel an interest in their country's welfare should deeply ponder.—"The present depressed state of Canada has no chance whatever of improvement, but by what she may derive from the augmented produce of her own soil."

It would appear from the Report of the last quarterly meeting of the Directors of the Lower Canada Agricultural Society, that notwithstanding some difficulties and drawbacks, it continues to persevere in its useful labors. We are sorry to see that the French translation of the *Journal* has not been remuneratively sustained; yet the Directors have resolved not to relinquish it. There is no better test of the public spirit and intelligence of the farming class in any country, than the degree of support they afford to agricultural papers and Societies. We observe with much pleasure that the Lower Canadian Society has imported a number of short treatises on the science and art of agriculture, "with a view of having them published in a cheap form, and circulated in the country and at the schools, in order to give our youth a taste for farm-

ing, as well as to instruct them." We not only hope the Society will be enabled to carry out this excellent object, but should like to see the Provincial Association of Upper Canada lending its aid, as soon as practicable. Co-operation for promoting a common good is always desirable; for "union is strength." The Society has taken an important step in the appointment of a seedsman; and we copy the following paragraph for the information of our readers, who will at once see that something of the sort ought to be done for Upper Canada, which comprises by far the most important agricultural portion of the United Province:

"Mr. George Shepherd, seedsman to the Lower Canada Agricultural Society, has imported a large quantity of European clover, and lucerne, for the Society, which has been admitted free of duty, and will be disposed of at cost price to members of the Society, and to County Agricultural Societies, who may apply in time. We believe it will be found that European clover will answer better in Canada than any other, as it takes a longer time to become perfectly ripe than clover which is raised from American seed, and therefore foreign clover will be the most profitable to sow with timothy seed.—Clover intended for hay, if allowed to become too ripe before it is cut, is not of much value, and clover grown from European seed will not be ripe before the timothy growing with it is fit to cut. We would recommend every farmer who has his land fit for clover to sow some by all means in spring.—Lucerne requires that the soil should be in excellent condition for it, and it must be subsequently kept perfectly clear of all grass and weeds. Mr. Shepherd has appropriated a part of his store for the purpose of receiving samples of agricultural seeds or other produce, on the plan of a Corn Exchange, where members of the Society will have the privilege of showing samples of produce they may have to dispose of. The samples of grain to consist of one quart each, accompanied with the name of the variety, the weight per bushel, the quality of the soil on which it has been grown, and any other information that may be considered interesting. This will be a very convenient mode of showing samples and of purchasing grain for seed or any other purpose, and such accommodation is much wanted in Montreal. Any one having a good sample of grain to dispose of, by placing it at Mr. Shepherd's, will be almost certain to obtain a customer for it, and any person requiring to buy any particular species or variety of seed, will find it at once, and ascertain the description of soil on which it has been grown, a most essential information."

WINTERING CATTLE.—The way to summer your cattle well is to winter them well; and half the secret of good wintering is to keep them warm. Animal heat is generated in proportion to the abundance and excellence of their food. Exposure to the cold air withdraws heat rapidly, and of course makes more food necessary to re-supply it, just as an open door makes it necessary to have more wood in the stove. If your stock run down in the winter and come out lean and feeble, all the summer will not fully bring them up again.

AGRICULTURAL IMPROVEMENT.

We take the following extracts from an interesting article that lately appeared in the *Evangelical Pioneer*, a paper published at London, C. W. It is gratifying to see the Provincial Press devoting some attention to Colonial agriculture, which after all must be the grand source of our wealth and the pillar of our strength. Too frequently do we hear in this country that labor is so high and prices so low as to preclude any material improvement in the important art of farming. We have always been of opinion that agriculture generally, either in ancient or modern times, and in any part of the world, has never afforded exorbitant profits. The farmer's life is one of constant application and labour, involving a considerable amount of mental anxiety, and requiring the exercise of much prudence and economy. But then it is a life of healthful independence, affording with honest industry, if not a fortune, at least the means of an honorable subsistence. We should have preferred the following calculation if it had been the result of actual experience, rather than being as it is put hypothetically. So little indeed are farmers in the habit of keeping a strict account of their expenses and income, which would enable them to ascertain exactly their profit or loss upon the operations of the whole year, and also approximately on each particular article of produce, that we think it right to draw their attention specially to the subject: and we hope it may be the means of eliciting some statements from experienced and practical men. Profit or loss should not be calculated for one or two seasons only, but for a sufficient length of time to afford a fair average. What is wanting are calculations founded upon a series of actual results. Computations on paper beforehand are frequently very different from the proceeds of the field as determined by measure and markets:—

"The man who tries improved methods, and keeps no accounts, may be expected to say, "It won't pay," or to run into the other extreme and say,—"It pays handsomely, and I intend to go into it on a large scale," because, in truth, he knows nothing about it, and hits or misses at hazard.

The man who does not try to make any improvement in his farming, is either incredulous or obstinate, and the sooner he gets rid of both the better for him.

He, however, who keeps correct accounts, is the man who is likely to make real improvements,—cautious improvements; because by the habit of submitting every thing to the test of figures, errors in judgment are corrected. There is no withstanding their truthfulness; no poetry here; all is plain, straightforward, up and down matter of fact,—the result being careful calculation from known facts, added to the money value of expenses and returns,

For instance, a man reads that so and so has tried a particular course of cropping under a new management,—suppose fall wheat after timothy and clover, which timothy and clover were sown with spring wheat, on land ploughed and manured, or rather, dressed in the preceding fall with lime, at the rate of fifty bushels, or seventeen barrels of unslaked lime to the acre; that the spring wheat, timothy and clover, and lime, were all well harrowed into the ground, on the undisturbed sod in the month of April, (only one ploughing, remember, in the fall, and that a good deep one,) and the ground rolled two or three times; that the spring wheat turned out thirty bushels to the acre; that the clover, dressed with one bushel of plaster when up, gave good fall feed the same year, and was in the fall dressed with fifteen wagon loads of short dung; that the timothy and clover hay the next year yielded 2½ tons the acre, and after giving good pasture to the cows, was on the first of September ploughed down with a nine-inch wide and six inch deep furrow, with a good Scotch plough; that a subsoil plough immediately followed the Scotch plough, and loosened ten or twelve inches, or more, deeper, without bringing up any of the subsoil; that the land was then sown with fall wheat, at the rate of 1½ bushels the acre, on the same day as ploughed, then well harrowed and rolled with a heavy roller; that the wheat was twice fed down by sheep up to the first October; that there was no snow that winter, but frequent rains, hard frosts, and thaws, but that, nevertheless, the wheat was not heaved out, although, under the former system of shallow ploughing, it had been so more or less, every year; that in the spring it was harrowed with a light harrow and roller, as soon as the weather was dry enough, and timothy and clover sown again at the same time, and plastered as before, going through the same course of wheat and clover and manuring (but liming only once in six or eight years,) as might be found convenient,—the actual experiment having lasted, we will suppose for three years; that is, having yielded one crop of spring wheat, one of timothy and clover hay, and one of fall wheat, with the few intervening months of pasture; and the third year yielded thirty bushels of fall wheat the acre.

Well, an intelligent and wide-awake farmer having read this, and not being inclined to turn up his nose at it because he happened to see it in print, and imagine it was all stuff because it was in the newspaper, does not say, "I like that and will try it;" but sets himself to figure it up, which is not difficult for him, because he has been accustomed to it.—He knows that when he properly employs his men and teams, so as to have idle time only on wet days and Sundays, that a man at \$10 a month and boarded, costs him a little under 3s. c'y a day; his span of horses, with plough or wagon, &c., cost him 2s. 6d. a day; his man and team plough 1½ acre a day, in a good loam, free of stumps; his seed wheat he calculates at an average of 3s. 9d. currency a bushel; clover seed, \$5, and timothy, 5s. currency the bushel; he sows 1½ bushels of wheat, 10 lbs. of clover seed, and 5 lbs. of timothy, the acre: harrows well, four acres a day. Here then he has the materials of his calculation. He is at first staggered a little at the expense of the lime, which he can get at the kiln at 1s. 10d. currency a barrel, but is not frightened.

CALCULATION BEFORE DETERMINING TO ADOPT THE COURSE.

| Dr. | First Year. | Cr. | First Year. | Cr. |
|---|-------------|-----|--------------------------------------|---------|
| Ploughing in the previous fall..... | 0 3 8 | | 30 bush. of spring wheat, at 3s. 1½d | |
| Cost of 17 bbls. of lime, at 1s. 10½d.. | 1 11 10½ | | the bushel | 4 13 9 |
| Teaming&spreading the lime..... | 0 10 0 | | Fall grazing worth | 0 5 0 |
| 1½ bushels Spring Wheat at 3s. 9d.. | 0 6 7½ | | | |
| 10lbs. clover seed, 4s. 2d.; and 5lbs. timothy, 5d..... | 0 4 7 | | | |
| Sowing, harrowing and rolling in ... | 0 2 6 | | | |
| Plaster & sowing 0 | 5 0 | | | |
| Harvesting wheat 0 | 7 6 | | | |
| Threshing thirty bushels at 4d. ... | 0 10 0 | | | |
| 15 loads of dung, hauled out, and spread on the timothy & clover | 0 5 0 | | | |
| <i>Second Year.</i> | | | <i>Second Year.</i> | |
| Saving timothy & clover hay | 0 5 0 | | 2½ tons of hay, at \$5 | 3 2 6 |
| Taking 2½ tons of hay to market ... | 0 12 6 | | Fall grazing worth | 0 3 9 |
| One ploughing timothy and clover lay | 0 3 8 | | | |
| Subsoiling do. ... | 0 5 0 | | | |
| 1½ bush. seed wheat at 3s. 9d. | 0 5 7½ | | | |
| Sowing | 0 0 7½ | | | |
| Harrowing & rolling do. | 0 2 6 | | | |
| <i>Third Year.</i> | | | <i>Third Year.</i> | |
| Timothy and clover seed to sow on wheat | | | 30 bush. fall wheat at 3s. 9d. | 5 12 6 |
| Sowing, harrowing, & rolling in 0 | 2 6 | | Fall grazing worth | 0 5 0 |
| Harvesting wheat 0 | 7 6 | | | |
| Threshing thirty bush. 4d. | 0 10 0 | | | |
| Three years' interest on land, valued at £5, and lime, say £2 10—£7 10. 1 | 7 0 | | | |
| | 8 17 3 | | | |
| Deduct from these expenses, half the value of the lime, which will last 6 years at least | 1 1 0 | | | |
| | 7 16 3 | | | |
| Profit in the three years | 6 6 3 | | | |
| Or, each year £2 1 the acre, a great profit. | | | | |
| | £14 2 6 | | | £14 2 6 |

Having made up his mind that his calculation is correct, he sees at once what the whole thing is worth, and adopts or rejects the course on sure grounds, not guess work.

Calculation then is the groundwork of all agricultural improvement; for by first calculating what

an experiment is likely to turn out, and then by keeping strict accounts, and calculating its actual profit and loss, after the experiment has been tried, we arrive at correct results, which cannot be arrived at in any other manner.

Let farmers look into the foregoing calculation and honestly convince themselves of its truth, or falsehood, not by jumping at conclusions, but by rigorous examination; and in calculating the labor cost of their men and teams, let them remember that if they have not full employment for them, that is no fault of the men or teams, but their own mismanagement. We consider 275 working days in the year a fair calculation for a team, that is, deducting from 365 days, 52 Sundays and 38 wet or idle days; allowing the feed of each horse to cost the farmer £10 a-year; and for the other items, comprising interest and wear and tear, we allow the horses to cost £20 each; waggon, £15; shoeing, £1 10s. a-year; wear and tear, one-tenth of the cost of horses and waggon, as a charge each year. No charge has been made for taking the wheat to market, as the value of the straw will be fully equal to that.

J. H.

ST. JOHN, N. B., AGRICULTURAL SOCIETY.

The Annual Report of this Society for 1848, is lying before us, as published in the *St. John Courier*, and, as is usual with such documents, it contains much that is interesting and instructive. We feel much pleasure in laying before our readers what our fellow subjects are doing in New Brunswick, an important portion of our dominions in British America, that possesses much higher agricultural capabilities than is commonly imagined.

The Report commences by stating that a large quantity of seed oats, barley, turnips, carrots and beets, had been during the previous spring imported from Scotland, and the results at harvest had been most satisfactory. The soil and climate appear well adapted to oats: some of the Polish and potato varieties, imported four years since, now produce a heavier weight than the original seed. The society had offered handsome premiums for the erection of improved oat-mills, several of which are in the course of erection. The wet weather of the last season had been unfavourable to the crops—though hay had been generally abundant and well saved, Potatoes were early affected with the disease, and a full half rotted in the ground. Oats, generally good. Barley, owing to the wet weather, was light. although samples weighing 54lbs. a bushel were exhibited at the Fair.

We can only make room in our present number for the following earnest appeal, which we assure our subscribers in New Brunswick is, in some important respects, equally applicable to Upper Canada. One great step, we think, towards the advancement of British America, is a full confidence in our great natural resources.

A PROVINCIAL BOARD OF AGRICULTURE.

In our report of 1847, we called the attention of this community, and of other societies throughout the province, to the propriety of urging upon the legislature the adoption of energetic measures, by means of which the agriculture of the province might be raised from its present disgraceful and ruinous position.

The only results of our appeal were, a grant of £500 to import race-horses, and the enactment of a law to prevent the growth of thistles!

The time seems now to have arrived, however, when a continuance of apathy and neglect, on the part of the government and the people, in relation to agriculture as a subject of the most vital importance to the province, will certainly and speedily bring about universal bankruptcy, and the depopulation of the country. As we do not content ourselves with the cuckoo cry of "something should be done," we proceed to state what we conceive *can and ought* to be done.

In the first place, we propose that a Provincial Board of Agriculture should be formed, to be composed of those, who, from their position, energy, business habits, and acquaintance with the state of agriculture in this and other countries, would be most likely to bring forward, and *carry out*, measures of improvement. Sufficient funds should be placed at the disposal of this board to enable it to carry on its operations with vigour and effect.

Next, as to the work to be done. It is not so much the want of industry, as the want of knowledge, which renders farming unsuccessful in this colony. Our native farmers, as might be expected, follow in the footsteps of their fathers; they neither see, nor hear of, any better methods than those of their ancestors. Those emigrants who undertake agricultural pursuits, do as they see others doing; and as few, or none, of these new settlers have been bred to farming, they introduce, if possible, a worse system than the old one—an exclusive reliance on the potato.

The mode of culture adapted to the virgin soil—to the rich leaf-mould newly rescued from the forest—will impoverish and render valueless the cleared fields which now compose so much of our farms. Yet the cultivation by which these worn-out fields could be made to produce far more than ever the *burnt land* did, is unknown and unpractised. There is no rotation of crops—no draining—no proper ploughing—and but imperfect manuring, as hay and most of the other produce are sold off the farm; consequently the land is almost barren. Only uncertain and short crops are produced, and the universal cry is—"No use trying! Farming in this country will not pay." And no wonder—*such* farming would not pay in any country.

To introduce and encourage a better system of farming, would be the chief business of the board.

There are various ways by which agriculture is encouraged in other countries. The Agricultural Boards of the United Kingdom employ lecturers on agriculture, who visit every part of the country.—The boards also establish model farms, and agricultural schools, in which the best modes of agriculture are carried on, within the view of all; and at the same time means are adopted, by a system of accurate accounts, of furnishing ample knowledge as to the profit and loss of farming upon sound principles.

The boards have frequent shows in different parts of the country, where large premiums are distributed for improvements in stock, or in modes of cultivation. It is notorious, that Great Britain owes her present elevated position in agriculture chiefly to these means. In Holland, Germany and Sweden, agricultural colleges with model farms attached, are considered as necessary as courts of law or churches. The agriculture of a great part of Scotland, was rescued by the Highland Society from much such a state as that of New-Brunswick is now in, but little more than half a century since.

There are peculiarities in our position, however, which must affect the mode of procedure. From the protection heretofore enjoyed by our timber in the British market, and the exclusive encouragement given to that branch of trade by our own legislature, timber-getting, and the branches of business intimately connected with and dependent upon it, have absorbed all the energy, industry and capital of the province. Agriculture, the only source of permanent prosperity to any country, has not only been neglected, but absolutely sacrificed. In this country, capital accumulated in other pursuits, instead of being invested in the improvement of land, as in most other countries, has been taken (with the addition of all that could be scoured from the farms) to supply lumbering parties, and to build saw-mills. Farming, thus neglected, would of course prove unprofitable; and farmers themselves being loudest in crying out that farming would not pay, the character of the province, as an agricultural country, has been sunk to the lowest possible ebb, not only among ourselves, but in those quarters from whence we might expect assistance and encouragement. It is owing to this erroneous opinion of the agricultural capabilities of New-Brunswick, that while foreign capital and skill are pouring into the United States, Canada and Australia, the emigrants to our shores have been generally poor and ignorant. Farmers with capital pass us by—the people of New-Brunswick say it is not a farming country; and the wealthy emigrant takes their word for it, naturally supposing that they ought to know best. That New-Brunswick is not the land for farmers, is therefore set down as an established fact—it is so stated to emigrants at the various ports of embarkation throughout the United Kingdom, and it is urged upon them in many of the publications for their information and guidance.

To remove this false impression, and make known to farmers in other countries who are inclined to emigrate, these FACTS,—that our climate and seasons are quite favourable to the growth of wheat, maize, barley, oats, hemp, and all vegetables—that few countries possess a greater proportion of soil fit for cultivation—that freehold farms ready for the plough, can be obtained for less than the annual rent paid for similar farms in older countries—will be the duty of a Provincial Board of Agriculture; and this, with the task of introducing into the country, by means of model farms and otherwise, a system of farming which will pay, and the labour of providing instruction in this new system, to farmers' sons and others, throughout the province, will furnish ample employment to the board for many years to come.

The whole success of the board will of course depend upon the appointments being made of those

who will fit the offices, and not from among those whom the offices will fit.

We trust that the other agricultural societies, and the friends of agriculture throughout the Province, will give serious attention to those suggestions, and co-operate with us in bringing this subject under the notice of the government and the legislature. As our sole motive is an earnest desire to promote the welfare of the country, we shall hope to be excused for thus earnestly pressing our views and opinions upon the people generally, and seeking their co-operation in a matter of such vital importance. The occasion is so pressing, that it behoves every man to be "up and doing." Our *one* article of export is now a drug in every market; and as our farmers do not even produce sufficient food for themselves, we *must* change our course or the province will be deserted.

ADDRESS TO FARMERS.

To the Farmers of New-Brunswick we would say:—The prosperity of the country depends upon you. It is only by well-directed energy and economy on your part that a surplus of food can be produced; and until we have that surplus, no manufactures can be carried on profitably. Will you allow it to be said, that while farmers in other countries, pressed down by heavy rents and taxes, and without any right of property in their improvements, are causing their fields to yield double, that you—the owners of the soil—with a climate abundantly favourable for almost every crop—with miles on miles of fertile alluvial vallies, and hills that may be cultivated to their very tops—with a government of your own choosing, and lighter taxes than any country in the world—that you are not only not improving, but are actually going backward!

Farmers of New-Brunswick! You stop the way—you must move onward!

Signed by order of the Board,

ROBERT JARDINE, *President.*

M. H. PERLEY, *Corresponding Secretary.*

St. John, October 20, 1848.

To the Editors of the Canadian Agriculturist.

Sirs,—I saw an article in one of your numbers, from a farmer who grew asparagus "as thick as fork handles." The treatment of his asparagus bed is excellent; but he says he cuts the plants over ground. I understood they should be cut an inch under the surface, and have seen this recommended in gardening works—may I request to know which you consider best?

I would also request your opinion on fall ploughing, as I find a difference on this subject amongst good farmers. All appear to think it good for summer fallow. Some approve of it for the spring crop of barley, but condemn it for any other spring crops. They say that the stiff clay soils, which constitute the character of three-fourths of the soil of the province, get beaten down and hardened by the rains, and that they lose their fertilizing power by exposure to the air and evaporation. On the other hand it is urged that deep ploughing is good, and that the ground can be ploughed deeper in the fall than in spring. This I think true, and I have ploughed this fall, on that account, with three horses abreast. I think I would have done better, had I

ploughed with a team of four horses; and better still with two teams of two horses, one plough without a mould-board following the other. It is also said, that the stiff clay is rendered friable by the winter frost, and that grubs and other destructive insects are destroyed by exposure to the frosts. In corroboration of this opinion, a neighbour of mine, a Welsh farmer, tells me that he has a field, on some acres of which the crop was always destroyed by the grub, till he ploughed in the fall, and that where he does, it is not injured. It is also said, that the land so turned up gains more by absorption than it loses by evaporation, and finally that the time for spring sowing is so short, that it would be well to plough as much as possible in the fall, if the exposure did no injury—as it would greatly advance the spring operations. I am but a poor judge myself, either practically or theoretically, and would therefore be obliged by your opinion on this subject; and hope that some of your intelligent practical agricultural subscribers may consider the subject well in all its bearings, and favour your readers with their opinions.

C. J. B.

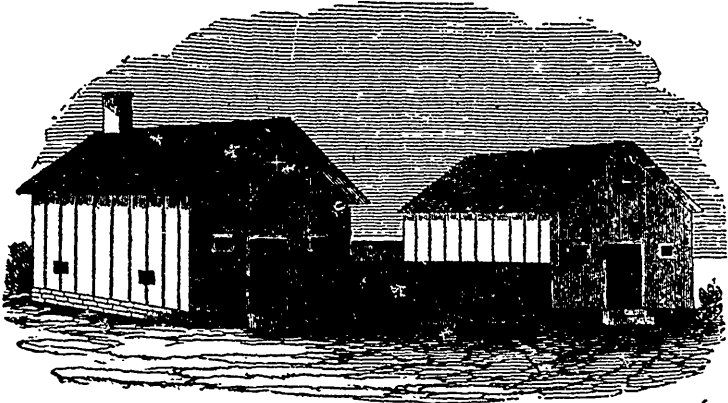
Toronto Gore, Dec. 15, 1848.

[We hope some of our agricultural readers will give our correspondent the benefit of their experience in reference to the subjects embraced by his inquiry. It is only by comparing a large number of well-ascertained facts, as they have been found to exist under diversified circumstances of climate and soil, that general principles can be safely drawn on practical agriculture. We shall be happy at all times to register the observations and experience of our correspondents in all portions of this province; and it is in this way principally that an agricultural periodical can be beneficially sustained. Without going at large into the subject at present, we may just observe, that considering the frequent lateness of the spring in this country, and the short period for sowing, it is desirable that autumn ploughing should not be neglected. Some soils will of course afterwards consolidate, but even such, we should imagine, must have received some benefit from the previous ploughing. We think there is no reason whatever to fear that the soil can sustain any injury from exposure to the action of frost, rain and air, but on the contrary, must be materially benefitted. Such exposure induces several important changes, both chemical and mechanical. Our correspondent, we think, will experience the benefit of his deep fall ploughing in his spring crops. Ploughed land should be left in as rough a state as possible through the winter, and well water-furrowed. If it be too much consolidated in spring to obtain a sufficiently fine and deep tilth by common harrowing, the only alternative is another ploughing, or what would answer equally well, the employment of an efficient cultivator. Again we say to our readers, send us an account of your various practices, and the results of your individual experience. We hope some of

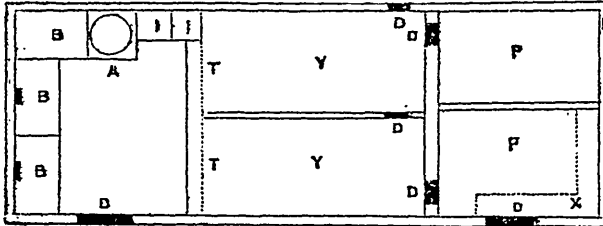
our horticultural friends will attend to our correspondent's inquiry respecting the management of asparagus.]

FARMING A TRADE.—Farming, to carry it on successfully and with profit, is as much a *trade* as many other kinds of business. It is as necessary that a regular apprenticeship should be served on a farm, in order to make a neat and profitable farmer, as it is to spend two or three years in learning other trades which might be mentioned. The difference is easily discernable between the farm of a workman, one who has served his time on a farm, and one who has had little or no experience in his business. While the former keeps every thing in good order about his premises, and raises good crops, the latter lets things go at "loose ends," and has stunted crops for his pains. One will endeavour to raise crops with little or no manure, and with land half cultivated, and in return for his labors receives scarce enough to pay for his trouble; hence the complaint of small profits of farming. While another who has devoted his time and attention thereto, "served his time on a farm," deems it to his advantage to manure bountifully, and cultivate accordingly. He calculates not only on his profits the present year, but for his land to pay in the same ratio, succeeding years. The one who considers farming no trade, but thinks each and every one capable of successfully managing a farm in all its varied parts, often has cause to change his opinions. It is most true any and every one can do it with the same profitable results. It is true again that the individual who has plenty of capital with which to improve land, has altogether the advantage over the individual whose means are limited. But it is not true again, that the one having the largest amount of capital always receives the most actual profit. While one may have a capital of three thousand dollars at his command to take the advantage of in his farming operations, another may have but five hundred, and still receive a higher per cent in proportion to the amount invested. The cause of this, in a great measure, is owing to the better management of the latter. Now it is very evident that the man who has "served an apprenticeship," been brought up on a farm, and devoted himself to his calling, will through his skillful husbandry receive nearly double the profit from the same amount and quality of land, than the individual will, who goes on to a farm with scarcely any knowledge of his business. True, he can plough his ground and plant his seed, after a fashion; but will it be done in a workmanlike manner? As well might a farmer go into a blacksmith's shop and attempt to forge out a shoe for a horse. No doubt, he would make something that would resemble a horse-shoe, but would it be a suitable shoe for a horse to wear? Just so with the unpractised, who would be a farmer; he might *manage* a farm and get a living from it; but how would the looks of his farm compare with his who was a farmer by trade? Farmers often experience the difference in those whom they hire to labor on their land. While one can earn eighteen dollars per month, another equally as strong and healthy cannot earn more than ten. The reason of this is plain. The one who has eighteen dollars is a farmer by trade; he knows how and where to take hold, and how to proceed; while the other, who has but ten dollars, (and perhaps is a dear hand at that,) is so little acquainted with the business, that he can scarce begin a job without being told how and where by his employer, and then he will go to work in a very bungling sort of a way. The fact is, he is a "raw hand"—he has got the trade to learn before he is worth eighteen dollars a month. The saying is, "Every one to his trade," and there is more truth than poetry in the remark.—*Boston Cultivator*.

PLAN OF A PIGGERY..



GROUND PLAN.



We take the above cut, and the description which follows, from the "Transactions of the N. Y. State Agricultural Society." It received the premium at the January meeting of the society last year. We like several features in the plan, but think it capable of some improvement. In most cases a Canadian piggyery would require to be larger than this, if, as the author states, it will only accommodate six hogs. In putting up buildings of this kind, it is better to make them too large than too small.

I forward you my plan of a piggyery and other necessary fixtures, which I have in contemplation, and am preparing to put up, on a tasteful and cheap scale, within the reach of every thriving citizen in our state.

The cost of construction will depend much on the finish. The ground plan of the two buildings, which includes a yard between them, is 40 ft. long and 14 feet wide, which may cost from fifty to ninety dollars. A good mechanic has promised to do all the labour, after the foundation was laid, for fifty dollars, the boards to be planed and matched. Unless the buildings are to be painted, I would recommend that the boards be put on in a rough state, and white washed with a composition of stone lime and water lime. To construct a good cellar would cost about thirty dollars more.

This plan might be enlarged; I have designed it for six fattening hogs, or for one breeding sow and three porkers. "Millionaires" may require something more expensive, but this is sufficiently spacious for the common citizens of Vermont. The two upright buildings represent the swill house

and piggyery. Both are fourteen feet long and twelve feet wide, the posts ten feet.

The ground plan of the first building contains the arch A., for cooking, where boilers and steamers will be placed sufficiently large to accommodate the number of hogs to be fed. The feeding troughs also, T, T, are included in the same building, which is made of white oak plank, and extends the whole length of the house, except the space occupied by the tubs or vats, I, I, which are convenient for the cooked food, swill, &c. One of them may contain the warm food, and the other in process of fermentation, to be fed at any time. The dots on the yard side of the house and feeding trough, T, T, represent standards of iron or white oak, arranged along the front close to the outside of the trough, at suitable distances to allow the heads of the swine to pass between them into the feeding trough. The sill on this side of the house is raised and framed to the posts two feet above the common level of the other sills, and these standards or pins which prevent hogs from getting into the trough or house, are framed into the sill above, and the feeding trough; the plank which forms the bottom of the trough may project on the outer side for that purpose, or the plank may be of such thickness as to enter the upper edge.

B, B, are bins for apples and roots, in each of which a window opens for the purpose of shoveling them in, two of which are seen in the upright part. The hogs are to lodge in the pen, and can pass from their apartments, P, P, through the yards, Y, Y, to the feeding trough, T, T; a partition divides the sty or open yard, and extends across the piggyery, forming two sleeping apartments, P, P, and two yards Y, Y; six doors and passage ways opposite,

D, D, D, D, D, D. The main door in the piggery opens into the passage, X, 2½ feet wide, for the convenience of the attendant to carry in straw, &c. The open yards may be used for litter, and to manufacture manure; these occupy space enclosed between the two upright buildings, and are 16 feet long.

The floor of each building and the yard should be flagged with stone or brick, secured from frost. The sills of the two main buildings are raised upon a wall 18 inches. A cellar may be constructed under the first building for the storage of roots; if seven feet deep, will hold 600 bushels, allowing 2420 cubic inches to the bushel. A convenient wheel and windlass is arranged in the loft of this house, for handling the hogs at the time of killing, and may be convenient for dressing other animals.

There are many piggeries in this state constructed about 30 feet long and 20 feet wide, which contain all the cooking apparatus, the hogs, grain in the loft, and sometimes a wool room, which form a complete nuisance. I am opposed to feeding swine in close buildings where they make their litter, and cooking food under the same roof. The effluvia cannot be very pleasant for man or beast. Truly yours,

S. W. JEWETT.

FARMERS' CLUBS.

DARLINGTON, ENGLAND, SEPTEMBER.—*Wheat Sowing, and the management of Short Horned Cattle.*—Mr. Dixon said:

The immense quantity of seed generally sown in this district in proportion to the produce, as was observed by the chairman, was certainly a subject which required serious consideration not only amongst cultivators, but the country in general. It was a subject which the cultivators must make experiments upon. A farmer might take a single rood of land and set it apart for that purpose, and sow part of it broadcast, another part drilled at convenient widths for the sake of experiment, and another part dibbled, and thus observe what plan answered best provided the land was fairly cultivated. It would be necessary in case of dibbling to have the land in such a state that the dibble would work; drilling much the same, the land must be in such a state that the drill would work to advantage, in order to sow the seed at a proper depth and regularly. Thin seeding was advocated by a number of intelligent and clever gentlemen. Mr. Hewitt Davis had farmed considerably for a number of years, and from the report of a gentleman who had visited Mr. Davis's farms within the last six months, although the land was naturally very far indeed from productive, and rather of a barren description, yet the beautiful and abundant crops growing thereon showed what could be accomplished by energy and perseverance in the way of cultivation and cropping. He pursued the thin seeding system and got excellent crops, and had advocated the system perhaps more than any other man. The reason appeared pretty obvious. Mr. Davis was a land agent. He was agent for an extensive landowner; and his farm was looked to as a model farm, and others were encouraged to imitate it. If the system had nothing in it that was good they might be sure that neither his employer nor the community would encourage him; he would, in fact, have been put down long ago. There was no question, from the simple circumstance of this single individual, but what the system was worthy of countenance, and if so, it was worthy of being experimented upon.—The Chairman said it was calculated that a million quarters of food would be saved annually by thin sowing without injury to the farmers at all; and if this were correct, he thought it was worthy their consideration

at the present time, when we did not grow as much grain as we consumed.—Mr. Brown thought the season had a good deal to do with the relative advantage of thick and thin sowing. Three years ago he reaped one field which yielded 30 stooks, and another 50 stooks an acre, which had been sown at the rate of five pecks an acre; and this year on the same grounds he had not reaped 25 stooks an acre, though the land had double the advantage it had had the previous year, when he reaped 30 and 50 stooks.—Mr. Thornton then introduced the second subject of discussion. He said, for more than 20 years I have taken great delight in the breeding and management of short-horns, and as every man has a right to praise the bridge he has got safe over, I may also say that I have every reason to be satisfied, for my cattle have always left me a good profit. I have always been careful in selecting bulls bred from cows that make a good show for milking, having a good shaped udder, with the paps hanging well; as I have always found in the sale of cows and heifers that this is a great advantage. I have at present a cow which my hind has had for the last three years; the same hind also had her dam for two years before. He says that he never milked two better cows anywhere, the last one, more particularly, milked uncommonly well for the first year, but the second year not quite so well, on account of her having twins, two bull calves, which I sold for 75*l*. This year she produced a heifer calf, and is now in calf again, and is also milking well, as the hind informs me; and this is more, I believe, than many of the short-horn breeders can say, for their cows are not always milkers. I have now had this breed for more than 20 years. Now, as to the management of my short-horned cattle generally, some of my calves I put to nurses, but not to cows having too much milk. I have seven calves sucking at this time. In November I take them from the nurses and put them into a fold yard (not too close), and give them turnips, hay, and straw. They come out in the spring with plenty of hair and robust constitutions, and do better when turned out to grass in the spring, than if they had been kept close in a warm house in the winter, and indulged with meal and oil cake.—Mr. Emmerson said, with all deference to Mr. Thornton, I am quite satisfied that I could not bring out a real good animal, either bull or heifer, at a year old, if I were to confine them to the keep which Mr. Thornton tells you answers. Turnips and straw are only poor feed, and I only consider turnips as lentils, and greens require something along with them to qualify them; it would be much the same to set us farmers down to greens without any beef; we might live upon vegetables certainly, but we should only thrive badly without the beef. I have had some experience in the management of short-horns, although not so much as Mr. Thornton, yet in order to produce first-rate animals, I find it requisite for them to suck the nurse from three to five months; I then give them oil-cake and meal, or anything that they can eat. In giving them bean-meal, I however give it in very small quantities at first, and gradually increase it; otherwise it is too binding and would injure them. I of course give turnips and hay along with other things, but I am quite sure that in order to bring out a first-rate bull at a year old, he must have oil-cake and corn, as well as turnips, hay, and straw.—Mr. Thornton in reply said, that in describing his general management of short-horns, he did not mean to say that higher keeping was not sometimes resorted to in the case of prize animals.—Mr. Goldsbrough said, that generally speaking, his year olds, with good keeping, were as big as most of his neighbours' two year olds. He kept his for about two months on new milk. After that he gave them meal and beans, and hay and pottage. He gave them no green food, except occasionally a few tares or anything of that sort. He kept them in the fold both

winter and summer; he considered he lost nothing by keeping them well; he had not lost one since he commenced keeping them well; when he kept them badly it was quite the reverse. He thought the best method of breeding a great matter. Many of the farmers were debarred from putting their cows to good bulls for breeding purposes, in consequence of the high prices charged for them; two guineas always, but if a calf were kept for a bull, then five or ten guineas being generally charged. If gentlemen in the neighbourhood would buy a good bull for the use of their tenants, it would not be easy to calculate the amount of good which would be done.

FARMERS' CLUBS.

NEWCASTLE, ENGLAND, OCTOBER.—*On the Breeding, Rearing and Working of Farm Horses.*—Mr. Ramsay introduced this subject as follows:

The subject I am about to bring before the Club is one of vast importance, as it involves a great outlay in farming affairs, the useful cart horse being at all seasons and at all times in requisition, particularly in these times, when such great exertions are being made to place the various kinds of seed in the ground in good season as well as in securing the crops when at maturity. Indeed, the horse is so necessary a portion of farming stock, on the good or bad quality of which so much depends, that I hope I need not apologise for endeavouring to show how necessary it is for every farmer to possess a good breed of useful animals of this description. I shall therefore attempt to lay down a few useful hints for the breeding, rearing, and working, of farm horses. First as to the breeding of useful cart horses. The first principle and best rule is to select proper animals to breed from. It is said, "like generally produces like;" and if that is not always accomplished, it will in most cases prove true. It is therefore necessary to begin breeding with well formed animals; and although every one almost thinks himself a good judge of horses, yet it does not follow that he is so. I will therefore venture to lay down a few rules to go by, which I trust may be of use, particularly to the inexperienced breeder. The different breeds of work-horses may be said to be comprised under the heads of Clydesdale, Cleveland and Suffolk, and the large black horse of Lincolnshire and the midland counties. The first is useful and hardy, and may truly be said to be a good sort of horse for farming purposes; but they are heavy-headed, and sluggish in their movements, deficient in their loins and back ribs, and too long in the back: the feet and legs are generally strong and sinewy, and they are good feeders. The Cleveland horse has long been noted for being a good traveller, and an excellent plough horse, and crosses from this breed often produce excellent carriage horses. The Suffolk horse is little known in this district. He bears a good character for hardness of constitution, sound pulling, and great activity. He has borne away many prizes at the Royal Agricultural and other shows, and I believe might be crossed with advantage with our Northumberland and Durham breeds. The Lincolnshire and midland counties horse is often of great weight and strength, and suitable for London drays and those occupations where great loads and slow draughts are required; yet many of these want action for farming purposes. The horses bred in Northumberland and Durham are of an excellent breed, and if proper pains were taken in breeding them they are equal to any kind of work, and I believe they may fairly be allowed to stand high as active and useful cart horses. To improve our native breed, I will therefore endeavour to point out the most desirable animal to breed from, and mention a few points necessary for that purpose, as far as that can be accomplished. Mares for the purpose of breeding should be well shaped in their different parts; gentle, but spirited; have a large well formed carcase; good middle, strong

sinewy limbs, not too high (say 15½ hauds high), broad well-formed chest, which is of the greatest importance; neck not too long, but well set on; a large clear eye; head not too large, and well set on; ears erect; free from natural blemishes of any kind; one colour is to be preferred, with good action in all her paces; head well elevated, which generally indicates spirit; and not too much hair on the legs. The proper age for breeding is neither too young nor too old, which will impart vigour to her offspring. The horse should be of good colour, bold and spirited, well made, and of kindly disposition, constitution strong and healthy, and as much as possible of the same description of animal as the mare. I believe most of the mongrels we see result from crossing with an expectation of improvement, without either sire or dam having the requisite qualifications for breeding; hence so many failures. One thing should not be forgotten, viz. to have both parents of a sound, good, pulling race; there is no doubt of this qualification being hereditary in different breeds. A stallion should have good action. Action is strength in many cases; and when horses have to go through excessive labour in busy times of the year, they fail in performance if they have not great activity. The breeding of good cart horses will pay the farmer best; they go early to work, are generally healthy, need less pampering than the blood horses; and as they begin to work for their meat when young, may be said to cost a farmer little or nothing at the age of 6 or 7 years, when they may be sold if thought advisable, and replaced in the farmer's stock by a younger generation, and the money placed in the farmer's pocket for a useful purpose. The proper season for having foals dropped is so well understood that I need not name it in this paper; but there is nothing like having an early foal. Next as to the rearing of cart horses. As soon as the foal is weaned, which is in the autumn, it ought to be well fed with grass of a nutritious kind, have corn given it daily, and handled as often as convenient to make docile and tractable. In winter it ought to have hay and corn; and if the hay is cut and steamed so much the better. Bran mashies are also excellent for young horses, and should occasionally be given. If treated in this way they will easily be trained to work. Kind treatment should always be made use of; harsh measures should always be avoided. When the horse attains the age of two years, he may be worked gently in seed time, and turned off again till a year older. After that he may go on with regular farm work, such as ploughing, harrowing, &c.; but I would advise good feeding, and not too hard work, at this tender age; as, be assured, the better he is treated when young, the longer he will wear. Many diseases are brought on by ill usage when young, and before the limbs and body are perfectly matured. I now come to the working of cart horses, and to show how I think they ought to be treated, in order that the food they eat may tend to economy, at the same time that they are kept in high condition, and fit for great exertions in busy times. I will therefore need to trespass a little longer on your time. First, as to food. I will commence with the winter season. Supposing a farmer to have obtained by breeding or buying, a useful set of farm horses, and his judgment leads him to keep no greater number than is really required, it will at once strike the mind of every practical farmer of what consequence it is to the success of his business, that he should feed his horses on proper food, to have them in health, and at all times in proper condition for work; for it is certain a farm horse cannot go through excessive hard labour, unless he is kept up to the mark in condition. No person ever expects great performance from the racer, the hunter, the hack or poster, unless he is in first-rate condition; and although the exertions of the work horse are not called out to such extremes, yet his labour is

long and continuous, and he ought to be well supported. Having provided good hay (not the miserable stuff often called hay—no better than, if so good as, straw, owing to want of care in making it, and keeping the worst for home use), the winter should commence as the weather turns bad; at which time the horse should not be left out in the fields, to stand under the hedges or eat grass, which engenders disease and fills him full of grease. The hay should be given in moderate quantities at a time, and the corn should be dry, as nothing is more injurious than soft oats. No farmer need have wet corn, as a very small kiln, which would not cost 20s., would dry all the corn needed. Hay and oats, and occasionally straw, is the food generally used; but I would recommend the oats to be bruised, and mixed with cut hay, and with a slight mixture (if much clover is in the hay) of clean wheat straw either dried or steamed, or boiled; if the latter, a mash should be given in the evening. I am certain from experience, the cooking of food will be made more generally the practice than at present. An addition of linseed-meal is of great use. Turnips and potatoes may also be cooked, and given to horses that plough, &c.; but they are rather of too laxative a nature to sustain a horse that has to work very hard. This may be said to be high feeding; and I expect at least the supply is a generous one. I hold it impossible to get great performances without proper support; and I will condemn the false economy of half starving farm horses in the winter, and having their condition to make up by excessive quantities of corn in the spring, when they are so much wanted. Like other horses, I have never found that farm horses can be kept in good condition for work without always being well fed. It may be said, Where will so much hay be got? I think it can be grown; but if scarce, a little more straw can be mixed with it, in the depth of winter, when in many situations horses cannot be constantly employed. In such cases the steaming of their food would effect a saving; and a mixture of more turnips, chaff, &c., may be used. Some say this plan is troublesome. If the number of horses employed be sufficiently large to employ a man or a boy to prepare the food, the system will amply repay the expense; and in other cases, if the small farmer would take the word troublesome out of his vocabulary, and employ some of his family in the work, he would find his horses fit for work or sale, and his boys or girls instructed in a necessary part of farming knowledge, and he would have more corn for market to prepare him for his rent day. Other objections sometimes arise, such as the expense of corn mills, straw cutters, &c.; but at the price these articles are now furnished it will be a small farm indeed if the outlay is not paid back the first year. Before concluding this part of my paper, let me not forget to urge regularity of feeding, horses well cleaned, stables properly cleaned and ventilated, and every care being taken of the animals. Most farmers perfectly understand these things—practising them is the only thing wanted. Having laid down a few rules for winter feeding, we next come to the spring months; the busiest time of all the year, and when the greatest exertions are required from both horse and man. At this time the work seems almost endless; yet with willing minds in the men, and horses which have been well used in the winter, all will be accomplished in due time, and with as few work horses as circumstances will admit. When the team is in good working order, fewer will do. Too many poor horses have ruined many a farmer before he could see the evil; and I need not tell the members of this Club that most horses can eat well whether they can work well or not, hence the necessity of being prepared for the busy months of the year. I strongly recommend the bruising of corn. My own practice is to bruise it or mix the corn with cut hay, which compels the horse to mas-

ticate his food and not swallow it whole. Lately some laxity had taken place in my establishment, and I saw the oats growing amongst the dung of the horse after passing through it. Next as to spring, summer, or autumn feeding. Until the turnip season is over, the horse ought to be well fed with such food as I have pointed out before; and about this time winter tares, clover, and grass may be ready to cut for soiling, which is by far the most economical plan of feeding, besides the great addition made to the dunghill. Here again care is necessary in the feeder. The green food should be given in proper quantities, and not thrown amongst the horses in a promiscuous manner, whether the food be wet or dry. I have seen great waste and want of judgment in soiling—and the animal perhaps eating unwholesome food by its being given in too large quantities at once, and perhaps, after being heated before it is given to the horses. Do all practise what they know? I fear not. The quantity of corn may now be greatly reduced, as the work will not be so severe. You may ask me to point out the quantities of food I recommend. This I think better to leave to the judgment of parties interested. There is no fear of your horses getting too fat, if an acre or an acre and a quarter is ploughed in a day and other work in proportion. The soiling system may be carried on through the whole summer and autumn, if found convenient, but I do not think that it is absolutely necessary; as, after harvest, most farms produce aftermath and rough stubbles, which afford a cheap bite, and will lessen the cost of feeding, which is an object; and some contend it does a horse good to be turned out at this time of the year. I follow that practice generally. I know full well that all the plans I have laid down cannot in every case be carried out; many circumstances will undoubtedly intervene to prevent their fulfilment; but what we have to aim at is perfection if possible, or as near to it as practicable—an approximation to the right course will be gaining much.—Mr. JOSEPH LAYCOCK said: Young stock is often kept sadly too bare. It seemed to be forgotten that their food had to furnish them with bone and muscle as well as flesh, and they had only the run of a poor pasture which afforded them little sustenance. Then again, an error was committed in giving horses an unlimited quantity of food. Instead of filling the rack with hay, the man should bring in his arms as much as would suffice for a meal. By cramming the rack out of a loft above, the hay was affected by the breath of the horses and became distasteful to them and was wasted. When farmers were advised to keep their horses in high condition, they asked where the hay was to be found. But if they would weigh out their hay instead of supplying an unlimited quantity, they would find that 10lbs. or 12lbs. a day would be enough for a horse with about 2 bushels of corn in the week. If more were given it would be wasted. The farmer should also insist on the stable being kept perfectly clean. It should not be, as it too often was, in so foul a condition that the ammonia almost took away your eyesight when you went in; it should be kept like a barrack stable. The horses would then be in a better condition for their work. As to ventilation, it was a common mistake to provide an aperture for the egress of the vitiated air, but to make no provision for the ingress of fresh air to supply its place. He threw out these hints for the consideration of the members, and would again particularly impress upon them the importance of weighing out their hay.—Mr. MATTHEWS said: Mr. LAYCOCK spoke of 10lbs. a-day; the cavalry horse had 14, and he was told, picked up his clean straw into the bargain, and if that was not too much for an idle horse, surely a working horse should not have less.—The CHAIRMAN could only say that he had found 10 lbs. a day to be more than a riding horse could eat.—*Agricultural Gazette.*

KEEP YOUR STABLES CLEAN.—As our stock all stand on plank floors, early in the morning we first take up that part of the litter which is not much soiled, with a fork, and place it in the back part of the stalls, to dry during the day. We then clean out the manure, and put it on the dung heap. If the litter be plenty, and it is an object to make as much manure as possible, then we should let all the litter go with the manure, and add plenty of fresh every night for the stock to lie on. And while on this subject, we wish to observe, that if the litter be straw or coarse hay, it ought to pass thro' a straw cutter before using it. This makes it much easier to fork the manure in the heap, as it is not then bound together with long straws. After removing the manure, we give the stables a slight sprinkling of plaster of Paris, or charcoal dust. Either of these substances absorbs all unpleasant effluvia, sweetens the atmosphere, and in the course of the season, adds considerably to the value of the manure heap.

Many farmers let their stock stand on the ground. If the soil be dry, there is no objection to this. If not cleaned out till spring, the manure should be spread evenly over the surface of the stable, every morning, a dusting of plaster or charcoal dust then put upon it, and fresh litter added before night. Each animal will thus make a large quantity of valuable manure during the season. One great advantage follows this system, and that is, the salts are not exposed to be washed out of the manure by rain, nor volatilized by the sun, as when exposed to the open air in the barnyard and other places.—*American Agriculturist.*

KEEP YOUR STABLES WARM.—In a brief article, p. 20, of this number, we speak of the necessity of proper ventilation of stables. This can be easily done, and yet keep them sufficiently warm for the stock. Due warmth is essential to the growth and fattening of all animals, and the production of wool in sheep. No farmer can expect much of either during the winter months, if he let his stock be out and exposed to the weather, or if his stables are not properly boarded up, the windows set in, and the doors hung. Next to plenty of good food, water, and air, is good shelter.—*Id.*

EXTRACTS FROM THE FARMERS' CREED.—We believe in small farms and thorough cultivation.

We believe in large crops which leave the land better than they found it.

We believe in going to the bottom of things, and therefore in deep plowing.

We believe that the best fertility of the soil is the spirit of industry, enterprise, and intelligence; without this, lime, marl, plaster, bones, and green manures will be of little use.

REARING CALVES.—I have found the following method to rear calves surest and cheapest: Let the calf run with the cow for a week, then shut it up, giving it about 10 minutes' sucking night and morning, having ready small par-boiled carrots scraped backwards; let the dairymaid introduce the carrot into the calf's mouth, it will soon suck it; continue this easy process for a few days, then cut in small pieces the boiled carrots and put them in a trough, the calf will soon eat them greedily; as soon as it does so, no longer boil the carrots. Now give it as many carrots as it will eat, and put into a little rack some good hay, with young rye and tares. Thus attentively managed, the calf will chew its cud in a fortnight; gradually reduce the time of its sucking, and finally wean it at the end of a month; then tether, on fine days, in good grass, still giving it the carrots at night; let it go into a warm, comfortable pen. The cow from the beginning is either fattening another calf or filling the pail for the dairy.

In the following winter let it have plenty of good hay and roots, with chopped straw and linseed, a quarter of a pint to a quart of water, put into a jar or saucepan and placed on the hearth on hot ashes; in the morning it will be done but not burnt. I have succeeded well with this simple method, and at 18 months the heifers have generally had their calves by their side. Should they scour during the year, I give in balls one table spoonful of Epsom salts, two of flour, and two of whitening or chalk.—*Agricultural Gazette.*

AGRICULTURAL CAPABILITIES OF NEW ZEALAND.—The following extracts from the "Guide to New Zealand," convey useful information of a kind which our readers will appreciate.

"Three years and a half ago, the cost of clearing and cultivating timber land ranged from 40*l.* to 60*l.* per acre, while that of clearing and cultivating the Fern land was from 18*l.* to 20*l.* per acre. The expense in each case when I left Taranaki, in February last (1845) was very much decreased, being as follows:

| | | | |
|---|-----|----|----|
| Expense of felling, burning, and moving logs from 1 acre of timber land | £ | s. | d. |
| Expense of breaking up by hand do | 2 | 12 | 0 |
| Expense of putting in crop, and expense of seed | 1 | 10 | 0 |
| Total | £14 | 2 | 0 |

| | | | |
|---|----|----|---|
| Expenses of cutting and burning Fern, and removing tutu stumps from 1 acre of Fern land | 0 | 12 | 0 |
| Expense of ploughing first time, do | 1 | 0 | 0 |
| Expense of ploughing second time, harrowing, ploughing in seed, and harrowing again | 1 | 0 | 0 |
| Expense of two bushels of seed, at 5 <i>s.</i> each | 0 | 10 | 0 |
| Total | £3 | 2 | 0 |

"Now timber land yields from 50 to 80 bushels per acre, while Fern land yields from 30 to 50, but when you consider that, for the sum required to cultivate one acre of timber, you can cultivate four acres and a half of Fern land, and instead of 80 bushels, taking the maximum in each case, you reap 225 bushels, the advantage in the latter case is so great and apparent, that the question as to which is the more profitable investment of labour and capital cannot admit of a moment's doubt.

"I am not prepared to give an opinion respecting the wearing of timber land. I have heard some farmers say that it would require manure sooner than Fern land; this I leave for experience to decide. The facts I have here stated are mentioned for the purpose of removing from the minds of intending colonists those frightful ideas of enormous outlay formerly required for the cultivation of a single acre of land in New Zealand which can now be cleared for less money than I have known paid here for rent alone of the same quantity of land."

"On the shores of Cook's Straits, and at Poverty and Hawk's Bay, so rapid is the growth of the coasting trade, in its several branches, that the supply next year will, in all probability, be more than sufficient for the support of the European population of these settlements; as an instance, from one station on the East Coast, and that in one article alone—salted pork, a quantity, amounting in value to 3000*l.*, is annually brought into Wellington, in exchange for British manufactures; and it is estimated, on correct data, that the general coasting trade with the southern settlements will next year show a return of at least 100,000*l.* The great importance of this branch of the commerce of these islands demands every support, and will be found one of the most effectual means of habituating the natives to the manners and customs of Europeans. Again, in agriculture, we have only to refer to the statement exhibiting the quantity of land cleared by the natives in this district, and its neighborhood, and we shall learn that there are 7000 acres of land available for cropping.

Horticulture.



DWARF APPLE TREE ON PARADISE STOCK.

We copy the above Cut and the following remarks on the subject which it is intended to illustrate, from the *Genesee Farmer*, the horticultural department of which is conducted by Mr. P. Barry an extensive Nurseryman, near Rochester, N. Y.—The dwarf apple is a novel and pleasing object to many persons, and where space is a consideration, may be cultivated with profit, as well as pleasure. The remarks of Mr. Barry are quite as applicable to Canada, as to his own country.

A standard apple tree requires at least 25 or 30 feet of ground. It is therefore obvious, that in a small garden of say 100 feet square, or even in a garden of half an acre, such an object must be entirely inadmissible, either on the score of profit or of beauty. Hence, if no other form were adopted for the apple than the standard, the thousands of proprietors of small gardens in the neighbourhood of all our cities and villages, and throughout the entire country, would be compelled to exclude the apple from their list of garden fruits. This would be a great sacrifice, for although apples may be purchased in most parts of the country at low rates, yet there are choice kinds that cannot easily be obtained, and there are no fruits so precious as those of our own gardens, produced by the labour of our own hands.

The Dwarf Apple, produced by grafting or inoculating on the *Paradise stock*, is therefore a great desideratum for small gardens, and for all gardens.—It requires not much more space than a currant or gooseberry bush. It bears early and abundantly, and the fruit is uniformly larger and finer than standard trees. The fruit is never blown off prematurely by high winds, and is easily gathered.—The trees are within reach of the cultivator, without the use of ladders, easily pruned, manured and otherwise tended, and if necessary may at any time be removed from one place to another, at any age, without interrupting seriously their productiveness. Besides, these miniature apple trees are among the chief beauties of the fruit garden. They strike us

at once as being adapted to the place, and in adaptation alone there is a great deal of beauty.

The cultivation of the apple in this form has, up to the present time, received little attention in this country. Indeed such a thing was entirely unknown until within a year or two, except to nurserymen and a few amateur cultivators around some of the older cities. Public attention seems now, however, to be turning to the subject, and we have no doubt but that as fast as they can be propagated, every little garden in the country will be enriched with them. The *Paradise stocks* used in this country are usually imported from France, and consequently dwarf trees are more costly than standards grown on free stocks, raised from seeds obtained at little or no cost, at the cider mills; but by and by our nurserymen will no doubt propagate their own stocks, and the trees will consequently become cheaper.

The *Paradise* is a species of apple that reproduces itself from seed, but is usually propagated for stocks by layers. Seedlings however, are preferable, as they have a tap root that holds them firmly in the soil, while those raised from layers have but fibrous roots that remain near the surface. There is another stock used for working on where trees are intended for pyramids; this is called by the French the *Douçain*, and is confounded by some authors with the *Paradise*. Trees grown on this attain a considerable size, while those on the *Paradise* seldom reach over four feet in height. The culture is the same as on free stocks as regards budding.

When plants are removed from the nursery, one year's growth from the bud, they should be invariably cut back till within three or four buds of the stock; and they should never be planted so deep as to place the bud or graft in the ground, as in that case it will emit roots, and the effect of the *Paradise stock* will be lost. We have heard people complain of their dwarf apples not bearing, but growing up vigorously like those on free stocks, and this was the cause. The soil should possess considerable firmness for dwarf apples as the roots remain so near the surface. Annual pruning is necessary to give the trees a good shape as well as to keep up their vigor, and they should also receive an annual dressing with compost. With this attention every one may succeed in raising crops of large and beautiful apples on their dwarf trees. Indeed the same attention that a good cultivator would give a gooseberry or currant bush will suffice for these little trees.

The above figure is the portrait of a tree in the garden of Aaron Erikson, Esq., of this city, some 6 years old, and has borne large crops of immense fruit, measuring 10 to 15 inches in circumference, for the last three years. The variety is the *Alexander*. Large apples, such as the *Alexander*, *Twenty ounce*, *St. Lawrence*, *Gravenstein*, *Hawley*, &c., will give the most effect on dwarf trees,

SELECT FRUITS.

At a late Pomological Convention, held at New York, the Fruit Committee, composed of some of the most distinguished pomologists in the Union after much care and deliberation, presented the following select list of fruits worthy of general cultivation. In preparing the lists, the committee

rejected every variety against which there were found to be three votes, and none were adopted which had not been extensively cultivated:—

APPLES—Early Harvest, Large Early Bough, American Summer Pearmain, Gravenstein, Summer Rose, Early Strawberry, Fall Pippin, Rhode Island Greening, Baldwin, Roxbury Russett. *Adapted to particular localities*, Yellow Bellflower, Esopus Spitzenburgh, Newtown Pippin.

PEARS—Madelaine, Bloodgood, Tyson, Bartlett, Seckel, Flemish Beauty, Beurre Bosc, Beurre D'Arenburg, Winter Nelis, Golden Beurre of Bilboa. *Adapted to particular localities*.—White Doyenne, Gray Doyenne.

CHERRIES—Black Eagle, Mayduke, Grassion or Bigarreau, Black Tartarian, Knight's Early Black, Downer's Late, Elton, Downton.

PLUMS—Jefferson, Washington, Green Gage, Purple Favorite, Coe's Golden Drop, Bleeker's Gage, Frost Gage, Purple Gage. *For particular localities*, Imperial Gage.

PEACHES—Grosse Mignonne, Early York, (serrated,) Large Early York, George IV., Oldmixon Free, Cooledge's Favorite, Crawford's Late, Morris White, Bergen's Yellow. *For particular localities*—Health Cling.

ADDRESS OF HIS HONOR JUDGE DAY.

President of the Montreal Horticultural Society.

"I propose rapidly, and I fear I must add, very imperfectly, to pass in review some of the motives which may justify the effort we are making; and may perhaps, place the object and tendencies of our infant society upon a more elevated footing than they have hitherto occupied in most minds. It is not upon Horticulture as increasing the delicacies of the table, nor as furnishing to the opulent amateur the honest gratification of displaying his treasures of fruits and flowers, that I now design to speak; nor am I much disposed to address myself to those unimaginative matter-of-fact people who associate with a garden no other idea than it is a place where cabbages and cucumbers come from, and whose notions of improvement can get no further than they are carried by a sort of gastronomic instinct that it would be nicer to have green peas and melons in May than to wait for them till July. Not that I would undervalue or speak lightly of the useful, or in any degree damp the ardour of the amateur; but I would leave these branches of the subject to another opportunity, or to abler hands. The attractions to the pursuits of the garden which I now select for notice, are those which may be supposed to exert an influence in refining our tastes and promoting our moral and intellectual improvement. The age in which we live is one distinguished for its ceaseless activity, and its advancement in the practical arts of life. It is essentially utilitarian, and there is in it a strong and increasing tendency to reduce persons as well as things to the common level, and to exclude all other standard of value, than such as is based upon money, or is reducible to money's worth. This spirit has not left untouched the gifted minds of our day; and it is to be feared that, with many even of those most highly endowed, there is a tone less elevated than that which gave dignity and glory to the giants in our fathers' days. It has been said, and with at least a semblance of truth, that a great epic poem could not now be written; and it might be added, that if written, it would scarcely find a reader. The genius of poetry, perhaps of eloquence too, seems to have reached and passed its loftiest summit

amid another generation of men. The ideal is fading before the real. The imaginative is yielding to the visible and material; and man's energies are devoted from morning to night for days—for years—for life—to the hardening and narrow pursuits of gain. Amid the whirl and excitement of these pursuits, in the rivalry and conflict of the Exchange, the Bar, the Senate, there is no room for the unobtrusive and tranquil moralities of life. The ruder and more selfish qualities of our heads and hearts are constantly stimulated and strengthened, while no adequate agent is brought to shed its genial, counteracting influence upon them. It can scarcely be denied, that with reference alone to the enjoyment of this world, even in its most worldly sense, we have fallen into a grievous error, in devoting so much of our time and of our anxieties to what is called business; that is to the mere acquisition of wealth. Those high capacities of our nature for improvement, the deep and pure sources of happiness, which are at once so simple and inexhaustible, were not given us to be thus deadened and dried up by a sordid and unremitting labor.

"In the presence of so many who know, from experience, the enjoyment found in the cultivation of the garden and the pleasure ground, it will perhaps be deemed idle for me to dwell upon the subject. They know that it is impossible to be in habits of daily contact, intercourse I will call it, with the beautiful creations of the vegetable world, the fruits and flowers, which are not absent from even the most humble garden, without a feeling of admiration and interest being awakened which, if encouraged, opens up sources of gratification, as abundant as they are salutary to mind and body. Amid the health-giving exercises of the garden, with enough to interest, but nothing to agitate, the mind is withdrawn from the vulgar excitements which weary and corrode it; the heart is tranquilized, and looks forth as from a haven of rest, upon the tempest it has left behind. Then comes up the dominion of old thoughts; the fond recollections and endearing associations of childhood; the innocent spirit of other years returns upon us; a consciousness of the value of the simple, the natural takes possession of the soul; and man, for the time at least, casts off the artificial character with which he is girded as impenetrable armour to do battle with the world, and abandons himself to the grateful and sweet influences around him. Can it be doubted that pursuits which can induce and sustain such a feeling have a mighty power in refining, in elevating, in improving? But this is not all. The occupation and pleasures of the Horticulturist are not stationary; on the contrary they are ever varying and progressive. Independently of the successive changes which every day and every season call forth, there are new things to be produced and old things to be improved, and these in infinite number and variety; and to do this he must have knowledge—knowledge of the immutable laws by which the subjects of his care are governed; of the laws of their propagation and growth; of their mechanical structure, physiology, habits, and wants; all this cannot be acquired without patient observation and study, nor applied without intelligence and ingenuity.

"But I would fain convey to the less initiated (if there be any such here), by some more efficacious than my poor expressions can afford—by some Mesmeric transfusion of thought, (leaving out the sleepy part,) a sense of the pleasure which is to be derived from a patch of ground, of a few rods, nay, of a few feet in extent, cultivated with our own hands; containing plants of our own growth, reared by our own skill; watched over with almost parental care and anxiety, and rewarding our care by the gradual development of those indescribable beauties, which a beneficent Creator has so liberally bestowed in one form or another, upon a large portion of his vegetable kingdom.

"I would have them feel that the serene delight with which we contemplate the bursting rose, in its unrivalled loveliness and matchless perfume, is a link in that great chain of sympathies, which binds us in strong communion with external nature. The voice, half piveness, half joy, which whispers to the heart from that exquisite and blushing flower, is the same which is heard fearfully in the murmurs of the mighty ocean, or the deep roar of the cataract. It bursts in thunder from the cloud—it speaks from the smiling face of mountain and valley—of rich woodland and waving corn field—of sunny knoll and rippling stream. The song of the little birds sends it forth, and so does the majestic firmament of heaven. It speaks from the setting sun, as he sinks amid his gorgeous pavilion of purple and gold. It sighs softly in the dreamy hour of summer twilight; and then the silver moon, with the innumerable far-off twinkling stars, take up the wondrous tale. It is the universal voice of creation, which ever changing in its infinite variety of tones, is still the same; and thrills upon the soul of man with emotions and thoughts so deep, yet so indistinct—so little connected with the business of this world, and so mysteriously wandering, struggling, onward, upward, to another, we might almost believe that amid the ruin of our race, one chord of the glorious instrument was left unbroken by its Almighty Maker, to answer, in sweet but mournful and imperfect music, to the harmonies of all his works. Let it not be said that in all this there is nothing real, substantial, useful; that it is the mere exaggeration of a vivid fancy; for it is possible that these moral instincts are a more essential and enduring part of our being than the passions which now impel and govern the course of human affairs. There is a meaning in these high aspirations, called up by the eloquent appeals of the material world around us; and it may happen that when unnumbered ages shall have rolled over the buried hopes and fears, the ambitions, jealousies, triumphs and defeats, which make up life, this longing after the idea of beauty—this dim half-consciousness of the reality of things unseen, will be remembered and comprehended by an enlarged sense, and higher intelligence, when time shall be no more.

"Upon this ground, then, of its tendency to improve our moral and intellectual nature, would I persuade our fellow-citizens to aid us in our endeavour to establish and maintain the Society, which is the object of the present meeting. If the observations I have had the honour to submit to you have any foundation in truth, then our project must interest all classes, as being of a character to conduce to the enjoyment of all. It proposes nothing beyond the reach of the poor man, nothing beneath the notice of the wealthy. Its charms are such as address themselves to the educated and refuted, and no dignity of rank, by extending to it a kindly sympathy, or an active participation.

"To our fair friends, upon whom we rely for much and zealous support, I address no solicitations, for I am not using the language of compliment but that of sober truth, when I say that woman's sensibility—her quick perception of the beautiful and excellent, in the moral as in the natural world; her purer aspirations, her more simple and quiet tastes—in all of which she far excels man's grosser nature—are a pledge that on her part no effort will be wanting to secure a vigorous and active existence to an institution, the objects of which accord so well with the essential tone and texture of her own character."

VALUE OF LEAVES.—What shall I do with my leaves? Are they good for anything? asks a correspondent Do with them! good for anything! Why treasure them to be sure, as if they were coin of the realm; they are good for everything which a gardener has to do. They are the best of all materials for bottom-heat,

the best of all soil, the best of all drainage, the best of all manure. It is true they contain little or no nitrogen, but they rot quickly, are full of saline matters, on which everything that bears the name of plant will feed gluttonously, and from their peculiar structure allow air to pass in and water to pass out with perfect freedom.

If we wish to know what leaves are good for, we have only to burn them and see what a quantity of ash they leave behind. All that ash is as much food for other plants as beef and mutton are for us. It is the material which Nature is perpetually restoring to the soil in order to compensate for the waste which is produced by the formation of timber. In wild land, trees are annually thus manured; were it otherwise a wood would be a roof of life overshadowing a floor of death. If we can remove the leaves from our plantations, it is only because of the artificial richness of the soil in which they grow. This sufficiently indicates the value of leaves, which are in truth hardly less important in their death than they were in their life, though in a different way.—*Gardeners' Chronicle.*

CHEAP FOOD.—At a meeting of the Academie des Sciences, on the 16th ultimo, a paper was read by M. Payne, on the part of the author, M. Flandin, who exhibited some specimens of horse chestnut fecula, entirely deprived of bitterness, and other specimens of bread and biscuits prepared with one part of this fecula and three parts of wheat flour. The author declares that a horse chestnut is worth as much as a potatoe, and that two trees bearing this fruit at the door of every cottage in the country are equivalent to several acres of potatoe fields, the more so, as the horse chestnut almost always yields a good crop and requires hardly any care.

SLUGS.—The most effectual remedy against the depredation of slugs and snails is to strew fine sifted ashes with a little soot and lime, well incorporated together, over the ground directly the seed is sown, and again when the plants are coming up; the lime and soot will form a coat over the stems and leaves of the tender plants, until they are strong enough to resist the injury, and the sharp rough particles of coke or coal ashes, will prevent their passing over it. The best time to sprinkle is when the dew is on the ground, or after a shower.—*Gardiner's Chronicle.*

SWEET POTATOES.—A small parcel of this root has been received by Messrs. Keeling and Hunt from Madeira. The cultivation of sweet potatoes, as well as other kinds from English seed, is being increased to supply this market; and as the voyage is now made from Madeira to Southampton on an average of from 11 to 12 days; they arrive in sound condition. Oranges and Bananas are also being cultivated to a considerable extent for consumption in England, and a parcel of them arrived by the same ship.

SEA SAND.—It is a fact not a little interesting (says Sir H. De La Beche) that sand thrown by the sea upon the coast of Cornwall is very extensively employed in the interior of the country for agricultural purposes.—Vast quantities of this sand (estimated at 10,000 tons) are annually taken from Badstone harbour to the interior, and this cannot be considered more than one-fourth part of the whole quantity removed. Between five and six millions of cubic feet of sand are thus annually conveyed from the coast, and spread over the land in the interior as mineral manure. In this case, however, the sand is not silicious, but consists almost entirely of comminuted sea shells, and thus affords the requisite supply of carbonate of lime to the clayed lands of the interior.

Mechanics and General Science.

ICE-HOUSE.

A respectable correspondent having requested information through our journal, as to the best mode of constructing an "Ice-House," we select the following from a standard American authority. We give the article entire, as the information it contains will prove useful to our readers generally. It will be seen that the *Winter* is not the time to make an Ice-House; like many other undertakings, it should be thought of beforehand.

A house or vault for the preservation of ice in summer, should not be regarded as merely administering to purposes of luxury, since ice contributes so much to the convenience, comfort, and even health, as to make it almost an indispensable article of domestic economy. The effects of the excessive heat which commonly prevails in the summers of the United States, are greatly obviated by the use of ice, which not only serves for the preservation of fresh meats, butter, &c.; but, in addition to these advantages, and its grateful employment for assuaging common thirst, it is a powerful agent in tranquillizing the irritability of the stomach in bilious fevers and dysenteries, and relieving the pain and burning heat often attendant upon inflammations and fevers. Thus, by soothing the stomach, and removing excessive heat, iced drinks and applications restore the deranged functions of the nervous and muscular systems of the sick, whilst they refresh and invigorate persons in health, so as to render them capable of enduring exercise and exertion even under circumstances calculated to produce great oppression and inconvenience.

An interesting writer has left the following testimony in favour of ice, as a restorative and remedy in fevers, which has been abundantly corroborated by subsequent experience, "I never," says he, "was in better spirits than here in this hot country (Sicily). I believe the quantities of ice we eat, in fevers, contribute to it; for I find, in a very violent heat there is no such cordial to the spirits as ice, or a draught of iced water. It cools braces the stomach, and gives a new tone to the fibres. I knew an English lady, at Nice, soon cured of a threatening consumption, by a free indulgence in the use of ices. It is the common practice here, Sicily, to give quantities of iced-water to drink in inflammatory fevers." (*Brydone.*)

"The custom in Sicily and Italy," says another author, "of taking ice, is considered as a powerful remedy in many diseases. The physicians of these countries do not give many medicines; but frequently prescribe a severe regimen; and prevent the baneful effects of various diseases, by suffering the sick, for several days, to take nothing but water cooled by ice, sweet oranges, and iced fruits," (*Stolberg.*)

One of the greatest advantages afforded by ice houses, is that of enabling families to preserve their butter, meat, fish, poultry, game, &c., in states of the weather which would otherwise induce them to spoil. In no part of the world are ice-houses more

essential to comfort, convenience, and health, than in the United States, and in all the northern and Middle States the winters are sufficiently cold to furnish ice of sufficient thickness to lay by for preservation. The cities of the Southern States are now regularly supplied with thick blocks of ice from New England, which not only afford a regular article of export to the West Indies, but also to Calcutta!

Considering the small expense and trouble at which ice-houses or vaults may be constructed, and the many advantages to be derived from them, it is surprising that any respectable country establishment should be without one.

It is considered, that the simplest, and most scientific form for an ice-house, is a double cone, that is to say, two cones joined base to base, the one sunk into the earth with its point downwards, into which the ice is rammed, the other being a conical roof, generally of wood-work, covered with thatch, and pointed at top. The entrance should be placed always on the north side, and provided with two doors some distance apart, and the spot screened from the sun by trees, shrubbery, a hill, cliff, or other barrier. The lower part may be dug about 16 feet in diameter, terminating below like the point of a sugar-loaf. Its ordinary depth, for a moderate family, may be about 24 feet. The larger the dimensions, the longer will it preserve the ice, provided it be filled. In digging, the workmen should slope the ground progressively towards the axis of the cone, to prevent the earth falling in. This conical slope should be faced with brick or stone work about one foot thick, and jointed with Roman cement, so as to be air and water tight. A well is to be excavated at the bottom, two feet wide and four deep, covered at top with an iron grating for supporting the ice, and letting the water drain away.

The upper cone may likewise be built of brick work, and covered with thatch; such a roof would prove the most durable. Whatever kind of roof be preferred, there must be left in it an oblong passage into the interior. This porch should face the north, and be at least 8 feet long by 2½ feet wide; and perfectly closed by a well-fitted door at each end. All round the bottom of this conical cover, a gutter should be placed to carry off the rain to a distance from the ice-house, and prevent the circumjacent ground from getting soaked with moisture.

The ice-house should have no window to admit light; but be, so to speak, hermetically sealed in every point, except at its cess-pool, which may terminate in a water-trap to prevent circulation of air.

A clear day should be selected for charging the ice-house; but before beginning to fill, a quantity of long dry straw should be laid on the bottom crosswise; and as the ice is progressively introduced, straw is to be spread against the conical sides, to prevent the ice from coming in contact with the brick or stone work. The more firmly compacted the ice is, the better does it keep. No layers of straw should be stratified among the ice, for they would make its body porous. Some persons recommend to pour in a little water with the successive layers of ice, in order to fill up its small crevices and convert the whole into one solid mass.

Over the top-layer a thick bed of straw should be spread, which is to be covered with boards surmounted with heavy stones, to close up the interstices in the straw. The inner and outer doors should never

be opened at once; but the one should always be shut before the other is opened.

Dry snow well rammed keeps equally well with hard ice, if care be taken to leave no cavities in the mass, and to secure its compactness by sprinkling a little water upon the successive charges.

To facilitate the extraction of the ice, a ladder is set up against its sloping wall at one side of the door, and left there during the season. (*Ure's Dict.*)

The time preferred for filling an ice-house, should, when practicable, be during the prevalence of extreme cold, or as soon after as possible, since the colder the ice when packed away, and the thicker the blocks, the longer it will last. Ice and snow can often be laid by, even in the Middle States, many degrees below 32° or the common freezing point of water. The larger the quantity of ice accumulated in one place, the slower will be the rate at which it will melt.

One of the principal objects to be kept in view in the construction of an ice-house is, to have it so that the water will pass off directly, as fast as the ice thaws. If the situation is sandy, or if you come to a layer of sand or gravel about the proper depth, no further care will be necessary; but if you find a stiff clay, rock, or earth of any kind impervious to water, you must contrive an outlet or abandon the place. This outlet may be constructed in several ways. If on the side of a hill, dig a drain and make it air-tight by means of a water-trap or inverted syphon; or the water may be drained into a well and pumped out; or you may sink a well in the bottom until you come to sand or gravel, and fill it up with stone. The cellar walls may be laid with stone, brick, or even lined with wood, as is most convenient or economical. A space of 8 or 10 inches is generally left between the wall and surrounding earth, which is filled in with tan, charcoal, straw, corn-stalks, or any other non-conductor of heat, the first-named article being generally preferred. A house 9 feet square in the clear, and 9 feet deep, will hold about 25 cart-loads of ice, which will be enough for a large family.

A cheap ice-house may be made thus;—Dig a cellar, say 10 feet square, and 10 feet deep. Then cut small timber from the woods the proper length, and build up in the cellar after the plan of building log-cabins, leaving a space between the logs and earth to be filled in with straw, tan, or other suitable material. Raise the wooden walls 2 or 3 feet above the surrounding ground, and heap up a bank so as to turn off the rain-water. A thatched roof is generally recommended, as the best to keep out heat, but some object to such covering as affording harbour to rats and other vermin.

The importance of keeping ice well surrounded with a non-conductor, and having the water absorbed as fast as melting takes place, is shown in the following extract from the *Kentucky Farmer*:—

“We take at sunrise from the ice-house, as much as will be probably wanted through the day, and cover it up in some saw-dust placed in a barrel in the dairy-house. At night, the size of any given piece is scarcely perceptibly diminished. It is a perfect charm.”

In some parts of the United States, where thick ice is rare, some persons pack away large quantities of snow, which, if the mass be large, and the snow dry or previously well drained, will often keep

through the whole summer. In most seasons ice may be collected in sufficient quantities to fill ice houses in every latitude of the Middle States. If no pond or stream of water of sufficient size be at hand, advantage may be taken of any little rill, which, by the erection of a small dam, may be made to overflow a considerable space. If the water be not more than 6 or 8 inches deep it will answer every purpose.

In stowing away ice the pieces should be as square as possible, and as large as they can be got or handled. They should be placed closely together like stone in a wall, and the crevices well filled with smaller fragments. The plan sometimes recommended of pounding or crushing the large pieces is reprehensible.

¶ We had intended to continue our remarks on the *Plough* in this number, but the cuts which were to have been used to illustrate them, not being ready in time, we must defer the article till our next issue.

RELATION BETWEEN ANIMALS AND THE COUNTRIES THEY INHABIT.—In whatever way we view it, the relation between the domesticated animals and the wealth and beauty of any and every land, is almost equally conspicuous. There is no doubt that these animals were the more immediate preparers of the land for civilised man; and this is the chief reason why civilisation has never made any advance worth mentioning, except in countries where these animals are found. Indeed, be the geographical position and climate what they may, we know not how any number of human beings, adequate to the originating of a localised and civil society, could exist, without the assistance, if not of the absolutely domesticated species, at least of the wild races of these animals. It is true that there are some farinaceous roots which offer a substitute, but only a poor substitute, for bread; and reptiles, insects, and mollusca, are still more humble apologies for beef and mutton; but these are sorry food for a nation. In the case of fruits it is not much better; for although there are some delightful wild fruits in the Oriental isles, and some passable ones in inter-tropical America; yet they are by no means general, and they are as unsatisfying for hunger in their qualities, as they are limited in quantity, and partial in their distribution. The surface of Australia is equal to that of all Europe; and, with the solitary exception of fern root, and some plants that answer as a sort of spinach—both of which are confined to particular spots, there is not one native esculent vegetable in the whole of its ample extent. Of the number of its native population, we have no means of judging; but they certainly do not amount to a single individual to every hundred square miles of surface.

Now, from its position on the globe, the climate of the whole of Australia ought to be one of the best in the world,—a sort of triple compound of spring, summer, and autumn, with very little winter; and we have at least one evidence of this in the mild uniformity of temperature in Van Dieman's island. But although the atmosphere which the surrounding ocean brings to Australia, would be mild, uniform, and eminently favourable to vegetation, if it met with a corresponding surface—a surface capable of receiving the benefit which it is calculated to bring; yet the greater part of the surface seems to be of the most wretched character—covered with saline efflorescence at one season, and seamed with brine-contaminated streams at another.

There is no meadow there, as in Europe; no green savannah, as in North America; and yet the climate ought to be better than either of these. What can be the cause of this difference? It is not wholly the form of the surface, or the geological character of the strata; for these are not very dissimilar to those of countries which present a very different appearance. The trees and almost all the vegetables, are, no doubt, different; but, as is the soil, so is the vegetation, is very nearly a maxim in nature. No savannahs were found in Australia, because there were no beeves or buffaloes to graze upon them; and the grasses upon the uplands were in wiry tufts, few and far between, because there were no sheep to pasture there. The Kangurū was the only grazing animal; and it is not adapted to fine grasses, either in the structure of its teeth, or in those of its organs of locomotion.

The proper grazing mouth is that which has eight chisel-shaped cutting teeth in the under jaw, acting against a cartilaginous surface of the upper. These cut the herbage clean, without that pulling up by the roots which is apt to be performed by a mouth of any other structure. The mouth of the great Kangurū also contains eight cutting teeth; but they are very differently dispersed; for there are only two of them in the under jaw, and there are six in the upper. A mouth of this kind makes a ragged bite, and cankers the remainder of the vegetable upon which it feeds; so that a flock of kangurū would very soon destroy the grass of a park or meadow. Besides, the whole structure of the Australian animal fits it for a mode of life quite different from our grazing *Ruminantia*. The insignificant bulk of the anterior parts, the vast development of the posterior, the strong and rigid tail, which, with the two hind legs, makes a tripod upon which the animal can stand while it uses the short fore legs as a sort of paws, and the marsupium for the young, are all modifications for which there is no use in a grazing animal, but which would render such an animal very unfit for its place and office in nature.

The mouths of those pachydermatous animals which are domesticated, are also biting mouths, not grazing ones; and therefore their browsing does not improve the pastures to the same extent as that of the ox and the sheep. The cutting teeth of the horse and the ass are six in each jaw, and the males have always canine teeth, or tusks; and the hog genus have always six in the upper. They have also canines or tusks, which are very long and formidable in the male of the wild hog; but they are not true teeth, with a fang inserted in the alveola of the gum, like the canine teeth of the *Carnivora*; neither is their purpose that of killing prey,—they are inserted or formed upon a core of bone, and come under the description of defences, although they are also of use in holding one end of certain kinds of food, while the animal places the fore foot on the other, and so tears it to pieces. We need not say that the feeding of hogs does not in any way conduce to the improvement of the pastures upon which they are turned; for, if they are not ringed to prevent them from rooting, they plough up the surface and devour the roots of the plants. Even the horse, which comes perhaps the nearest to a grazing animal of all the order to which it belongs, cannot be said to be an improver of the surface. Its bite is ragged, and it is apt to tear up the herbage in tufts; and unless it can get "a long bite," it cannot subsist.

The characteristic grazing mouths are therefore those of the ox and the sheep—of which that of the sheep is decidedly the neatest; and, when either the one or the other of these is turned upon the proper pastures, not in too great numbers, they always improve the quality of that pasture. Sheep, indeed, bite so close, that they cannot be, with impunity, turned upon some of the more valuable artificial grasses; for

those grasses have crowns, or coronal plates, at or above the surface of the ground, from which alone, vegetation can be made; and if these are nibbled off, or even jagged and torn by sheep, the plants grow no more.

Oxen do not bite either so clean or so close as sheep; and therefore they require more rank herbage; but they can be allowed to pasture upon fields of those plants, the crowns and the vegetation of which would be destroyed by sheep. Thus, when we take even a very cursory view of the animals which have been domesticated, we are brought to the three ruminants, the ox, the sheep, and the goat, as the ones which first enticed man to have a fixed residence, and become a herdsman, and thence a cultivator; but which of them may have taken the lead is indeterminate.—*Mudie.*

FURS OF THE HUDSON'S BAY TERRITORY.—The most valuable of the furs is that of the black fox. This beautiful animal resembles in shape the common fox of England; but it is much larger and jet black, with the exception of one or two white hairs along the back bone, and a pure white tuft on the end of the tail. A single skin sometimes brings from 25 to 30 guineas in the British market; but, unfortunately, they are very scarce. The silver fox differs from the black fox only in the number of white hairs with which its fur is sprinkled; and the more numerous the white hairs the less valuable does it become. The cross fox is a cross between the black or silver and the red fox. The red fox bears a much inferior fur to the other kinds; yet it is a good article of trade, as this species is very numerous. These four kinds of foxes are sometimes produced in the same litter, the mother being a red fox. The white fox bears about the same value as the red, and is also very numerous, particularly on the shores of Hudson's Bay. The variety termed the blue fox is neither numerous nor very valuable. It is of a dirty bluishgray colour, and seldom makes its appearance at the company's posts. Beaver, in days of yore, was the staple fur of the country; but, alas! the silk hat has given it its deathblow, and the star of the beaver has now probably set for ever; that is to say, with regard to men: probably the animals themselves fancy that their lucky star has just risen. The most profitable fur in the country is that of the marten. It sometimes resembles the Russian sable, and generally maintains a steady price. These animals, moreover, are very numerous throughout most parts of the company's territories, particularly in McKenzie's River, whence great numbers are annually sent to England. All the above animals, and a few others, are caught in steel and wooden traps by the natives; while deer, buffaloes, &c. are run down, shot, and snared in various ways.—*Ballantine's Hudson's Bay.*

INTERIOR OF THE EARTH.—Professor Silliman has, among other matters of interest, concerning which he has made some very valuable observations, provided us also with the following suggestions. A fact, he remarks, of great interest has been proved by the borings for Artesian wells in the suburbs of Paris, namely that as we go towards the centre of the earth, the temperature increases at the rate of about one degree for every fifty feet. That the whole interior portion of the earth, or at least a great part of it, is an ocean of melted rock, agitated by violent winds, though I dare not affirm it, is still rendered highly probable by the phenomena of volcanoes. The facts connected with their eruption have been ascertained and placed beyond a doubt. How then are they to be accounted for? The theory prevalent some years since, that they are caused by the combustion of immense coal beds, is perfectly puerile, and is entirely abandoned. All the coal in the world would not afford fuel enough for a single capital exhibition of Vesuvius. We must look high-

er than this; and I have little doubt that the whole rests on the action of electric and galvanic principles, which are constantly in operation in the earth.

We know that when certain metals are brought together, powerful electric action is evolved, and a light is produced, superior even in effulgence to the splendour of the sun. Now if a small arrangement produces such results, what may we not expect from the combination of those immense beds of metals to be found in the earth? Here we have the key to all the phenomena of volcanic action. An illustration on a small scale may be seen in an instrument called the thermo-electric battery, made of zinc, bismuth and antimony packed in a box and varnished. In this, heat is evolved below, while the top is cold; and here we have the very cause of the volcano, where in the interior a fiery ocean is heaving its surges, while its peak is capped with everlasting snows.

PATENT WAGON.—Mr. Start, of Smyrna, Delaware, has made an improvement in manufacturing wagons which will certainly be a great advantage to the farmer, inasmuch as it will effect a great saving in labor. The bed of the wagon is placed on small rollers, fixed in the frame work, on which it rests, and in front is a fixture for a lever by which a lad can run the wagon bed and shoot its contents on the ground.—It would seem that this wagon can be introduced to great advantage, among those who haul fresh lime or manure on their farms, as they can at once discharge the load just as readily as they can that of a cart, thereby saving, where the load is lime, an hour's work or more. Old wagons at a slight expense, say some ten or fifteen dollars, can be rigged on this plan. It was exhibited at the Newcastle County Cattle Show, and was highly spoken of by the gentlemen who examined it.—*Farmer and Mechanic.*

INTERESTING FACT IN ANIMAL CHEMISTRY.—In some pathological conditions there has been observed, at points where bones and muscles meet, an accumulation of free lactic and phosphoric acids, which has never been perceived at those points in the normal state. The solution and removal of the phosphate of lime, and therefore the disappearance of the bones, is a consequence of this state. It is not improbable that the cause, or one of the causes, of this separation of acid from the substance of the muscle is this—that the vessels, which contain the fluid of the muscles, have undergone a change, whereby they lose the property of retaining within them the acid fluid they contain.—The constant occurrence of chloride of sodium and phosphate of soda in the blood, and that of phosphate of potash and chloride of potassium in the juice of flesh, justifies the assumption that both facts are altogether indispensable for the processes carried on in the blood and in the fluid of the muscles. Proceeding on this assumption, the necessity for adding common salt to the food of many animals is easily explained, as well as the share which that salt takes in the formation of blood, and in the respiratory process.—*Liebig's Researches on the Chemistry of Food.*

SEWING MACHINE.—Morey & Johnson have invented a sewing machine, which is now successfully employed in the different factories of Lowell, and will sew from 2 to 4 yards in a minute, according to the size of the stitch, whether fine or coarse. It is also used by many of the factories of Boston, and many other places in Connecticut. At New London there is one machine which sews 30 pair of pants a day, or does about half the entire sewing required to make them complete. The machine of Messrs. Morey & Johnston will sew 40 bags per hour, and contracts have been made for making them by this machine at 1 1-4

cents per piece. The sewing too is decidedly stronger and more uniform than that which is done by hand, and it will perform in the same space of time about ten times the amount of work which can be done in the usual way. The expense too of making this machine is quite moderate, and agencies have already been sold to the Eastern and our own States. An agent, Mr. E. P. Whitmore, who has been appointed for the purpose, for the Southern and Western States, is about visiting the South, to dispose of them in those sections of our country.—*Farmer and Mechanic.*

A NEW LIFE PRESERVER.—We witnessed, says the Scientific American, many curious scenes in the city during this week and last, and among the rest we were particularly struck with the properties of a new life preserver invented by Messrs. Ralston and Phillips, the former of Washington Co. and the latter of Pittsburg, Pa. It consists of an improved dress of india rubber cloth, part of which is inflated, and in which the swimmer is encased. We saw Mr. Ralston enjoy a rough and tumble in the East River, and he came out, threw off his preserver and (having all clothes on) not a thread was wet. A young man of the name of Lowell, crossed from Williamsburg to this city in it—a distance of about three miles, with steam-boats passing him every few minutes, and when he arrived at Peck Slip, he came out of his shell dry, ready for parade. It is a most excellent invention, and Mr. Ralston informs us that he has applied for a patent.

A person wearing one of these life preservers can carry from fifty to one hundred lbs., in addition to their person, and float four persons in the water, without sinking, and can take no other position in the water, except with the head and shoulders entirely above the water.

The entire person save the face, is enclosed, enabling the wearer to float in an erect, or sleep in a reclining posture, or with paddles which are attached, propel himself at the rate of three miles per hour. His person is kept entirely dry, and the heat of his body is so retained, that he is warm and comfortable, when floating on the water in cold weather.

IMPORTANT DISCOVERY.—Under this head a correspondent of the *Southern Reporter* has the following:—"Within the last few days I have been informed on indubitable authority, that some of the talented and scientific gentlemen connected with the Royal Irish Fisheries Company have discovered that the celebrated fishing banks of Newfoundland actually extend across the Atlantic to within 100 miles of Ireland! and the quantity of fish on the said banks is more than sufficient to supply the markets of the whole world."

SELF-PRIMING FIRE-LOCK.—This is an invention of Mr. Walter Hunt, of N. Y., says the *Farmer and Mechanic*, and is a valuable improvement for priming and discharging fire-arms. The improvement can be adapted to either flint or percussion locks, by a very trifling alteration. The gun on exhibition at the Fair is an old U. S. musket, which had a flint lock, and the only change apparent in it is a neat little magazine in the place of the hammer-steel, and a steel point in the place of the flint. The alterations are all external. The act of cocking the gun deposits a priming of Guthrie's percussion pill-powder from the Magazine, which may be made to contain enough for fifty or five hundred charges. The lock is water-proof and appears to be perfectly infallible in discharging; indeed it seems quite impossible to miss fire so long as percussion pills remain in the Magazine. Competent judges pronounce it superior to all known locks, and they say that the percussion cap will be finally exploded.

Domestic.

"THY WILL BE DONE."

The following beautiful and pious effusion is from a memoir of Miss Alexander, the daughter of the late Bishop of Jerusalem:

My God, My Father, while I stray,
Far from my home on life's rough way,
O, teach me from my heart to say,
Thy will, O God, be done.

If thou shouldst call me to resign
What most I prize—It ne'er was mine,
I only yield thee what was thine;
Thy will, O God, be done.

E'en if again I ne'er should see
The friend more dear than than life to me,
Ere long we both shall be with thee;
Thy will, O God, be done.

Should pining sickness waste away
My life, in premature decay,
My Father, still I'll strive to say,
Thy will, O God, be done.

If but my fainting heart be blest
With thy sweet Spirit for its guest,
My God, to thee I'll leave the rest;
Thy will, O God, be done.

Renew my will from day to day,
Blend it with thine, and take away
All that now makes it hard to say,
Thy will, O God, be done.

And when on earth I breathe no more
Thy prayer, oft mixed with tears before,
I'll sing upon a happier shore,
Thy will, O God, be done.

USEFUL RECIPES.

We wish in this early part of our work, to make one remark, applicable to all selections under the above head. *We do not guarantee the excellence or harmlessness of any recipe, unless we do so in express words.* The reader will always be able to distinguish our remarks from those of other writers, by the free, open appearance of the type in which they are set, all editorial which we wish to have so regarded being "leaded" as the printers say, and extracted matter "set close." The difference between the two is exhibited in what we are writing and the extracts that follow.

We meet with a variety of recipes in our exchanges, some of them very valuable, and others probably worthless, and as it is impossible for us to put them to the test of experiment, we shall publish such as appear worthy of notice, and leave it to the reader to prove them. Great benefit is sometimes derived from a simple recipe. We have been told by two of our last year's subscribers, that a remedy which we published for the dysentery, had saved the lives of their children after the doctor had given them up. One of our agents assures us, that he has heard of several similar instances. We are no believers in the doctrine that any sin-

gle remedy will succeed or be proper to be used in every case, but it may often happen that the remedy recommended is adapted to the particular case, and in the absence of a physician may save life. At all events it is a good thing to know the remedies for any disease; the emergency may arise when that knowledge will prove invaluable.

In the various operations of the housewife, the results of past experience, and modern discovery, embodied in the form of simple receipts, are oftentimes highly serviceable. And we believe we cannot do a more acceptable favour to many of our fair readers, than to devote a column or two in each number to their particular use, by selecting matter of this description, the reader always bearing in mind what we have said above, that we assume no responsibility in the matter.

A GOOD WAY TO USE SOUR BREAD.—When a batch of bread is sour, let it stand till very light, and use it to make biscuit for tea or break-fast, thus:

Work into a portion of it, saleratus dissolved in warm water, enough to sweeten it, and a little shortening, and mould it into small biscuits, bake it, and it is uncommonly good. It is so much liked, that some persons allow bread to turn sour for the purpose. Bread can be kept on hand for this use any length of time.

ANTIDOTE TO POISON.—A correspondent of the London Literary Gazette gives the following antidote:—

"I may venture to affirm there is scarce even a cottage in this country that does not contain an invaluable, certain and immediate remedy for such events—nothing more than a dessert spoonful of made mustard, mixed in a tumbler glass of warm water, and drank immediately. It acts as an instantaneous emetic, is always ready, and may be used with safety in any case where one is required. By making this simple antidote known, you may be the means of saving many a fellow creature from an untimely end."

CURE FOR A BURN.—Take essence of peppermint and whiskey, in proportions of one part peppermint and three of whiskey, and apply with cloths. It gives instant relief. Peppermint and sweet oil is equally good, if applied with cotton.

COUGH SYRUP.—Take of Iceland moss two ounces, four poppy heads, four table-spoonsful of barley; put in three pints of water, boil down two, and strain it. Add one pound of sugar. Dose—a table-spoonful whenever the cough is troublesome. Another—boil down thoroughwort to a thick syrup, and sweeten with molasses. This cures when other remedies fail.

FOR A VIOLENT COLIC PAIN IN THE SIDE.—Mix an equal quantity of spirits of lavender, spirit of sal-ammoniac, add Hungary-water; rub it in with a hot hand, and lay a flannel on as hot as you can bear it. Repeat this often.

FOR A CONSUMPTIVE COUGH.—Take half a pound of double-refined sugar finely beat and sifted; wet this with orange-flower water, and boil it up to a candy height; then stir in an ounce of cassia-earth finely powdered, and use it as with any other candy.

TO MAKE BOOTS WATERPROOF.—Take bees-wax, tallow or mutton suet, equal parts, resin a tenth part of the whole; melt and mix together; apply the mixture hot to your boots, and they will last twice as long, and you will never complain of wet feet; the leather will absorb a quantity of the mixture, and it must be applied hot, until the boots are thoroughly saturated, both soles and uppers.

FELON.—Take blue flag root and wild turnip a handful of each, stew them in a half pint of hog's lard, then

strain them; add four teaspoonsful of tar, and simmer together. Apply this ointment until it breaks. Add bees-wax and resin to the ointment, for a salve, to dress it with after it breaks. This is an infallible cure, without losing the joint. The root of the fleur-de-lis, the Iris of our gardens, boiled soft and mashed fine, with a little meal or flour to make a poultice, is another safe and sure remedy. The poke root is said to be equally as good.

A USEFUL RECIPE.—Take a pint of pulverized charcoal, and put it into a barrel of new cider, and the cider will never ferment, will never contain any intoxicating quality, and is more palatable the longer it is kept.

FROSTBITTEN FEET.—Dissolve half a pound of alum in one gallon of warm water, and soak fifteen minutes.

TO KILL RATS.—Heat plaster of Paris in an iron vessel till it has done boiling, and mix half and half with Indian meal. Rats eat it freely, and it sets in their stomachs and kills them without the danger of giving them poison.

CURE FOR WARTS ON ANY PART OF THE BODY.—Make a strong solution of corrosive sublimate, wet the wart three or four times a day, never fails of curing.

TO PREVENT DISEASE.—Keep the stomach well cleansed; be regular in your diet; cleanse the skin often with clean cold water, or with the addition of a little white lye and salt, or with soap suds; rub the surface after washing, with a coarse cloth until warm. If you cannot use cold water, use warm; keep your head cool and your feet warm and dry, and you will have but little disease, and no doctor's bills to pay.—*Michigan Farmer.*

TO PRESERVE BUTTER.—We condense the following recipe for preserving butter from one of our exchanges. It is said to be much used in Goshen, Orange County, a place famous for its superb butter.

Composition: Take of sugar one part; of nitre, one part; and of the best Spanish great salt, (or rock salt,) two parts. Beat the whole into a fine powder, mix them together, and put them by for use. Of this composition one ounce should be put to every sixteen ounces of butter; mix it thoroughly with the butter as soon as it has been freed from the milk, and put it without loss of time down into the vessel prepared to receive it, pressing it so close as to leave no air holes or any kind of cavities within it. Smooth the surface, and if you expect it will be above a day or two before you can add more, cover it up close with a piece of clean linen, and above that a piece of wetted parchment, or for want of that, fine linen that has been dipped in melted butter exactly fitted to the edges of the vessel all round, so as to exclude air as much as possible, without the assistance of any watery brine; when more butter is to be added, those coverings are to be taken off, and the butter applied close above the former, pressing it down and smoothing it as before, and so on till the vessel be full. When it is quite full, let the two covers be spread over it with the greatest care, and let a little melted butter be poured all round the edges so as to fill up every cranny, and effectually exclude the air. A little salt may then be strewn over the whole and the cover be fixed down to remain close shut till it be opened for use.—If all this be carefully done, the butter may be kept perfectly sound in this climate for many years. How many years I cannot tell; but I have seen it two years old, and in every respect as sweet and as sound as it was when only a month old.

Butter cured in this manner does not taste well till it has stood at least a fortnight after being salted; but after that period has elapsed it eats with a rich marrow taste that no other butter acquires; and it tastes so little of salt, that a person who has been accustomed to

eat butter cured with common salt only, would not imagine it had one-fourth part of the salt necessary to preserve it.

FEMALE CULTURE.—The great entertainments of all ages are reading, conversation, and thoughts. If our existence after middle life is not enriched by these, it becomes meagre and dull indeed. And these will prove sources of pleasure just in proportion to previous intellectual culture. How is that mind to have subject matter of pleasurable thought during its solitary hours, which has no knowledge of the treasures of literature and science, which has made no extensive acquaintance with the distant and the past? And what is conversation between those who know nothing? But on the other hand, what delight is that mind able to receive and impart which is able to discuss any topic that comes up with accuracy, copiousness, eloquence, and beauty! The woman who possesses this power can never fail to render herself agreeable and useful in any circle into which she may be thrown, and when she is so she cannot fail to be happy. A full mind, a large heart, and an eloquent tongue, are among the most precious of human things. The young forsake their sports and gather around, the old draw nigh to hear, and all involuntarily bow down to the supremacy of mind. These endowments add brilliancy to youth and beauty, and when all other charms are departed, they make old age sacred, venerable, and beloved.

FEMALE DELICACY.—Above every other feature which adorns the female character, *delicacy* stands foremost within the province of good taste. Not that delicacy which is perpetually in quest of something to be ashamed of, which makes a merit of a blush, and simpers at the false construction its own ingenuity has put upon an innocent remark; this spurious kind of delicacy is as far removed from good taste, as from good feeling and good sense; but that high-minded delicacy which maintains its pure and undeviating walk, alike among women as in the society of men, which shrinks from no necessary duty, and can speak when required with seriousness and kindness of things at which it would be ashamed indeed to smile or blush—that delicacy which knows how to confer a benefit without wounding the feelings of another, and which understands also when to receive one—that delicacy which can give alms without display, and advice without assumption, and which pains not the most humble susceptible being in creation. This is the delicacy, which forms so important a part of good taste, that where it does not exist as a natural instinct, it is *taught* as the first principle of good manners, and is considered as the universal passport to good society. But this, the greatest charm of female character, if totally neglected in youth can never be acquired in after life. When the mind has been accustomed to what is vulgar, or gross, the fine edge of feeling is gone and nothing can restore it. It is comparatively easy on first entering life, to maintain the page of thought unsullied, by closing it against every improper image, but when such images are allowed to mingle with the imagination, so as to be constantly moved by memory, and thus to give their tone to the habitual mode of thinking and conversing, the beauty of the female character is gone, and its glory departed.—*Ellis.*

CLAY GOOD WITH SOAP.—A foreign paper states that a little pipe clay mingled with the soap is a great aid in washing clothes clean. We once knew a poor family who took in washing and became quite famous in the city near which they lived for the cleanness which the clothes washed by them exhibited. All the water they had to use was taken from an old clay pit near a brick yard.—*Maine Farmer.*

Miscellaneous.

EFFECT OF MUSIC ON REMEMBRANCE.—The evening bell of a village church sounds cheering and hospitable to every ear, and vividly do its strokes bring back to our recollection, with the days of infancy, our birth-place, the place where we learned to know our first joy, our first sorrow; for if certain sounds act on the nerves, those which remind us of the past, which express a sentiment and reveal a feeling, must have an effect of a higher kind upon the soul. It would be difficult to mark the limit where the operation upon the senses and that upon the soul begins or ends. These are mysteries which lie beyond the surface of our attainments, but of which we have, however, many indubitable proofs. Melodies which we heard in our childhood, a song—the poorest as music or poetry—if it bring to our mind recollections of earlier and happier times, if it remind us of places and occurrences, or more still of persons whose memory lies near to our heart, who can doubt that its effect will be powerful, and a thousand times more so than a composition infinitely richer, more regular, more harmonious and scientific? The “Rans des Vaches” is originally nothing but a melody composed of the three notes of a chord, played by the shepherd upon the horn of a cow, and is scarcely more than a signal of the cowherd of the Alps; hence its name, “Kuehriegen” in German; “Rans des Vaches” in French. Its charms, therefore, are not in its music, but in the recollections of home and infancy. Its sounds, like those of “Erin-go-bragh,” or “Lochabar no more,” speak more strongly to the memory and to the heart than to the ear. At these accents, as by enchantment, past years, with all their joy and sorrow, rise as from the tomb, and surround like phantoms the imagination of the exile. National airs are, in this respect, most deeply affecting, and volumes upon volumes might be filled with facts gathered in the Irish and Scotch regiments, in the American and Peninsular wars, in India and elsewhere, of their wonderful effect when heard in a foreign land. Soldiers and settlers feel, according to the character of the melody, raised to the utmost excitement, or moved to the deepest dejection. “We were at a ball,” wrote a few days since a young Scotchman, from one of the islands in the Pacific Ocean; “we danced and were happy; when all at once, to please me, a Scotch tune was struck up. It seized me with such power that I was quite overcome; I could stand it no longer, and was obliged to leave the company, in order to hide my tears and my emotion.” How deeply a simple tune, heard in our youth, can strike into the recollection of the past days of our existence, is illustrated in a remarkable instance which happened in the Glasgow Lunatic Asylum, and which was told to the author by the very persons concerned in it. Some patients in the ladies’ ward met in the evening in the room of the matron. They took tea, sang, and were cheerful. A Scotch song, however, disturbed the harmony of the party; it caused such violent emotion in one of the patients that they were obliged to remove her from the company. The following day she came to see the matron, and said—“Do you know why I wept so much yesterday in hearing that song? It reminded me of some circumstances of which I had long since lost all recollection.” Gradually, in retracing step by step, occurrences and events of long-forgotten years, she came to a clear understanding and sound appreciation of her own situation, and not many weeks passed before she was restored to health and to her family.—*Dr. Mainzer’s Music and Education.*

INFLUENCE OF YOUNG MEN.—There are many persons who imagine, that so far as their conduct can affect others, for good or evil, they may imbibed

notions as are congenial to themselves, and act from day to day irrespective of the good of others; forgetting that all belong to one common family, and that each has a claim upon his fellow-man for sympathy and aid.

Will any reasonable person pretend to deny that he has any agency in moulding the character of others, while at the same time, by his sagacity or eloquence, he makes man bow and worship at his shrine?

Is such a moral control over another, anything short of influence, and that too of the most responsible nature to the one who exerts it?

Truly, that is responsibility which makes one man answerable for the welfare and happiness of another; which all are, so far as their moral influence does, or can extend.

This being the case, it becomes all to look well to their conduct, it being the standard by which true worth is to be estimated.

Think not, young man, that it is beyond your power to send abroad such a salutary influence as shall make even the world thoughtful for your having had an existence in it.

Your friends and associates are watching your conduct with the greatest care and attention, while they mould their own characters in a great degree, by the very pattern of life, which though perhaps unconsciously, you are portraying to them in living forms.

If you are guilty of profanity, so common, I am sorry to say, at the present day, among young men, which is so low and degrading as not to emanate from the wise and good, others will become immoral by your contaminating influence, as it is most easy and natural to copy the example of the vile and depraved rather than the truly virtuous.

You are responsible for the acts of others only so far as the influence which you do, or may exert over them for their best welfare extends; for that you must ever be held accountable to man and your Maker.

But do I hear you saying, “my position in life is so humble and obscure that no one will ever look to me for direction or assistance in surmounting the various obstacles to be overcome in treading life’s rugged path.” Be not too sure of this; for your very situation may have made you an object upon which others have looked with admiration, considering you the very individual whose character would be most worthy of imitation.

Look well to your conduct, consider the mighty power of influence, as you have no moral right, if you would, to live isolated from the world; for life was not given that you might become a recluse, but that you might stand forth possessed of a character that will act upon, and benefit the race by its pure and noble principles.—*Boston Cultivator.*

FRIENDSHIP.—In young minds there is commonly a strong propensity to particular intimacies and friendships. Youth, indeed, is the season when friendships are sometimes formed, which not only continue through succeeding life, but which glow to the last with a tenderness unknown to the connexions begun in cooler years. The propensity, therefore, is not to be discouraged, though at the time, it must be regulated with much circumspection and care.

Too many of the pretended friendships of youth are mere combinations in pleasure. They are often founded on capricious likings suddenly contracted, and as suddenly dissolved. Sometimes they are the effect of interested complaisance and flattery on the one side, and of credulous fondness on the other. Such rash and dangerous connexions should be avoided, lest they afterwards load us with dishonor.

We should ever have it fixed in our memories, that by the character of those whom we choose for our friends

our own is likely to be formed, and will certainly be judged of by the world. We ought therefore to be slow and cautious in contracting intimacy: but when a virtuous friendship is once established, we must ever consider it a sacred engagement.—*Dr. Blair.*

THE HABIT OF READING.—Young men should always cultivate a habit of reading, for it may be to them not only the means of information, but the principal source of many of the finest and highest enjoyments of life. They who make good books their constant companion, will never want good and faithful friends in their prosperous days, or their seasons of reverse. There can be no blank in the lives of those persons who from active love hold daily fellowship with the wisest and best of the race. We think we could hardly be tempted to exchange our habit of reading for any other friend it may be our fortune to find on earth. And we are sure that any young man who will make this habit his friend, will ever esteem it among the wisest steps of his life; and so we counsel the young from our own experience, among all other gettings in this world, to get the habit, the love of reading—and always to have at hand a good book with which to fill up every leisure hour. In this way they come at last to know that the gems of life are found in its waste places.

Theory without practice, does not often carry much weight in it; and on the mind of the farmer, generally speaking, it acts with less force perhaps than with most other classes in the community; for unless an array of facts, or good evidence, is adduced to inspire confidence, he is slow to change, the more so, when he knows that even a partial failure in a single crop, from experimenting, will be sensibly felt in his slender income, and perhaps for a year to come. This feeling, to a certain extent at least, is all right and proper; for experiments, to test the new theory, are best undertaken on a limited scale; time may be lost thereby, but money may be saved in the end.—*Col. CAPRON.*

ALUM.—The uses of alum are manifold and important; incorporated with paper it presents a hard smooth surface, fit for writing upon; furriers employ it in the preservation of the hairy covering of skins; it retards putrefaction in animal substances; and hardens the tallow used for candles. Its astringent properties are valuable in medicine, and its caustic properties as calcined alum in surgery. But it is in dyeing that the use of alum is most important and most widely diffused. It is here that coloring matters present any affinity to the substances to be dyed; most of them would disappear with the first washing, were there no medium by which they could be fixed. The substance employed for this purpose is called a *mordant* or *biter-in*; and in this respect alum holds a pre-eminent rank. This mineral is also made subservient to other less praiseworthy purposes; bakers use it to give a good color to bad flour, and to swell a comparatively small lump of dough into a large loaf; iced ginger beer and lemonade, offered for sale at railway stations and other places in England, if narrowly inspected, will be found imbedded in lumps of alum, which pass very well for ice.

HOW TO WHITEN LINEN.—Fruit-stains, iron-mould, and other spots on linen, may be removed by applying the part, previously washed clean, a weak solution of lime or of soda, oxalic acid, or salts of lemon, in warm water, and often it may be done by using a little lemon-ice. The part which contained the stain, or spot, should shortly after be thoroughly rinsed in clear, warm water (without soap), and immediately dried in the sun. Linen that has acquired a yellow or dingy color by careless washing, may be restored to its former whiteness by working it well in water to which some strained

solution of chloride of lime or of soda has been added, observing to well rinse it in clean water, both before and after the immersion in the bleaching liquor. Never attempt to bleach *unwashed* linen, and avoid using the liquor too strong, for in that case the fabric will be rendered rotten.

“OUR DIFFICULTIES—THEIR CAUSES.”—The *Pilot* has a communicated article under the above head.—Causes assigned: the failure of the lumber trade for three seasons; the losses on produce in 1847, amounting to £250,000 by the Montreal and Quebec merchants alone; the disastrous effects of the present bankrupt law; our position as regards the balance of trade against us in England and the United States, and the want of domestic manufactures. It appears that during the year ending 1st November, 1848, the commissions in bankruptcy issued at Montreal numbered 109, of which 25 filed no statement; the remaining 84 filed statements showing total liabilities £395,729; total assets £398,329, out of which there were paid during the year dividends amounting to £9,920.

LOSS OF THE IRISH POTATO CROP.—It has been calculated that the loss sustained in Ireland by the failure of the potato crop between 1845-8, amounts to the enormous sum of *thirty-seven millions sterling*; to which must be added for the rise in the price of seed an additional sum of six millions, making a total of *forty-three millions*! In Thom's Almanac for 1843 it is stated, that 2,457,409 statute acres were under potato culture.

THE CHELTENHAM SIX-ROWED BLACK-SKINNED, OR AFRICAN BARLEY.—This is a new variety, which has been recently imported into this country from Abyssinia, and was first propagated in the neighbourhood of Cheltenham, from which place its name is derived. Since 1843, the year of its introduction, it has been grown, we are informed by several gentlemen, by way of experiment, and the result has proved it to be a hardy and prolific variety; it has been reared during severe cold and extreme drought—in the hot house, and then transplanted during frost; but such appears to be its hardihood that it was unaffected by these changes. A gentleman in the immediate vicinity of Lewes sowed last February 17 grains, which produced 383 ears, and 17,235 grains—above a thousand fold; a few of these ears are at our office, Lewes, for inspection. They present a very dark grey appearance—almost black, and the beard is extremely strong, but the grain itself breaks extremely white, and we are informed will make good pale ale. So highly are its qualities spoken of to us, that we think it desirable a perfectly fair trial should be made of its capabilities.

INOCULATING SHEEP FOR SMALL POX.—A farmer, being alarmed at the prevalence of small pox in his vicinity, was desirous of having his sheep inoculated. His shepherd remonstrated with him upon the subject, and said that the sheep at present were in a healthy and thriving condition, and that it would be very imprudent to introduce among them a disorder which might be attended with dangerous consequences, and which otherwise they might avoid. Unfortunately his master refused to listen to his advice, and the operation was immediately performed. The effect of the proceeding was that the disease raged violently amongst the flock, 95 of them died in a very short space of time, and many others are in a very perilous situation.

DRINK AND DISEASE.—It is remarkable that all the diseases caused from drinking spirituous liquors are liable to become hereditary, even to the third generation, and gradually increase, if the curse be continued, till the family becomes extinct.—*Dr. Darwin.*

Editors' Notices, &c.

☞ To SUBSCRIBERS for 1848.—Those persons who are entitled to the present volume for 3s 9d., and find it troublesome to remit the amount, may enclose a *dollar bill*, leaving it for us to pay postage. In many cases this will come within two or three-pence of the exact sum to which we are entitled.

☞ One of the newspapers of the City having purchased a number of copies of the *Agriculturist* to present as a bonus to its pre-paid subscribers, we shall be happy to treat with any of our contemporaries who may be desirous of doing the same.

PROVINCIAL ASSOCIATION.—We again remind the Directors of this society, that the annual meeting will take place in the city of Toronto, on the 21st instant, when a full attendance is most desirable, as business of great importance has to be transacted.

FOLDING THE AGRICULTURIST.—We recommend our subscribers, before they cut their papers, to correct the folding when necessary. A correspondent informs us, that his practice is first to spread the paper open, and damp it a little, previous to running a smoothing-iron over it, when it will become as smooth as if "hot-pressed."

W. F., Esq., Brockville.—Remittance received, with thanks for your suggestions.

Post Master, Chippewa.—Remittance—we are obliged by your friendly attention.

T. W.—Thanks for your friendly hints, most of which have been anticipated. As the season for active operations, both on the farm and in the garden approaches, we shall furnish our readers with suitable practical matter. To make our periodical of the greatest practical utility, the co-operation of experienced farmers and gardeners is earnestly invited. We want *writers* as well as *subscribers*, in order to make the *Agriculturist* what we hope it will speedily become—the accredited organ of the industrial interests of Canada.

X.—Our space will not allow giving many details of the proceedings of agricultural societies; any facts or experiments, however, that are well authenticated and possess a general interest, will at all times be thankfully received. The officers of societies may render in this way an essential service to their country.

R. L. D.—Best thanks for your good wishes. Your communication in our next.

A YOUNG FARMER.—We shall be happy to render you any assistance in our power. Your best plan would be to procure and study a good elementary treatise on Natural Philosophy and Chemistry. The small works on these subjects in Chambers's Educational Course are well suited to beginners; and Professor Draper's Text Books, published in New York, we can recommend; most Canadian booksellers could furnish them. We shall publish a series of articles on agricultural chemistry, and also, as soon as convenient, on mechanics, adapted to the comprehension of those who have paid no previous attention to these subjects. Our space, however, will not admit of giving many details or illustrations on such matters, and we earnestly advise our young readers to study some good systematic treatise. At the same time we would caution all such as are *practically* engaged in farming, against indulging in visionary expectations, and not to expect more from science in aiding practice than she has the ability to perform. Accurate analyses of soils, plants, &c., are matters wholly beyond the reach of farmers in general; they require

an intimate knowledge both of the theory and practice of chemistry, with much skill in manipulation, and demand no small share of time and patience. We shall furnish our readers hereafter, not only with the most trustworthy chemical results of modern experimentalists, but what we think of even more importance—the *agricultural* methods of determining the nature and capabilities of soils.

P. K., Thorold—Received.—Paper sent as ordered.

W. I., Sparta.—Sent paper to your address.

H. C. M., Stamford.—Sent a copy, addressed as you direct.

S. S., near Brantford.—We have no local agent at B. Therefore your paper is sent to the P. O.

G. B. Bytown.—The 32 copies were forwarded.

Rev. H. S.—Received.—You will find some information on the subject you refer to in our "Mechanics" department.

R. H., Clinton.—The mistake of which you complain was not such as we would be likely to discover. We have many names of the same kind, and often at the same P. O., and it is impossible for us to know whether they belong to one or several persons. You should have written us long ago. As it is you shall have the paper for this year, which we hope will satisfy you. The missing numbers were sent.

E. S., Thorold—Received.—We hope you will see fit to order the remainder of the present volume.

Post-Master, Clarenceville.—Butter's Brick Machine is now made in Buffalo. The price, we believe, is about £60.

TORONTO MARKET.

JANUARY 30, 1849.

| | | | |
|------------------------------------|------|---|-------|
| Flour, per barrel of 196 lbs. | 20 0 | @ | 21 0 |
| Wheat, per bushel..... | 3 9 | @ | 4 3 |
| Potatoes, per bushel..... | 2 6 | @ | 3 0 |
| Pease, per bushel, 60 lbs..... | 1 8 | @ | 1 10½ |
| Oats, per bushel, 34 lbs. | 1 2 | @ | 1- 2 |
| Bacon, per cwt. | 23 6 | @ | 30 0 |
| Hams, per lb..... | 0 3½ | @ | 0 4 |
| Butter, in kegs, per lb. | 0 5½ | @ | 0 6 |
| Butter, (fresh) per lb. | 0 7½ | @ | 0 9 |
| Pork, per 100 lbs. | 15 0 | @ | 20 0 |
| Beef, per 100 lbs. | 12 6 | @ | 16 0 |
| Turkeys, each | 2 0 | @ | 3 0 |
| Fowls, per couple | 1 0 | @ | 1 3 |
| Eggs, per dozen..... | 0 7 | @ | 0 9 |
| Hay, per ton | 10 0 | @ | 65 0 |
| Straw, per ton | 25 0 | @ | 30 0 |

The deliveries of wheat from the farmers continue small, and the demand limited to home consumption. Trade is dull for all kinds of produce, and the news per *Canada* will not tend to improve it. The British markets up to the latest dates, January 12th, were glutted with foreign imports—chiefly European—with downward tendency.

NEW YORK MARKET, JAN'Y 29TH.

Flour—The market rather active. The sales 300, or 3500 barrels at \$5.56 @ 5.62½ for common and good Western, 5.87½ @ \$6 for pure. The demand is to some extent for the eastern trade; fancy extras sell at \$6.12½ @ 7.50. *Meal* continues dull; \$3 for Jersey *Rye Flour* \$3.18 @ 3.37.

GRAIN—For *Wheat* there is a moderate inquiry small sales Troy Long Island at &1.05 @ 1.18 for red \$1.16 for white, and about 2500 bushels Western on terms not made public. The market has if anything downward tendency for *Corn*.

PROVISIONS—In prime *Pork* there is more activity and an advancing market. The sales are 1000-1200 barrels at \$12.50 for new and old, which is large advance for old prime.

THE "BRITISH COLONIST," "PATRIOT"
AND "AGRICULTURIST."

Notwithstanding the non-political character of the *Agriculturist*, and the expressed intention of its proprietors, to abstain from the discussion of all party questions in its columns, it would seem that a newspaper of this city is determined to drag us into politics, whether we will or not, for no other purpose apparently than to gratify a selfish, revengeful feeling against another newspaper, and some personal pique against one or both of the proprietors of this journal.

In consequence of the enlargement of our paper, and the desire to have it well printed, we entered into a contract with the only publishers in this city, who had a press of sufficient size, Messrs. Rowell & Thompson, to print it for the present year. Sometime after we had made our arrangement, these gentlemen became also the publishers of the *Patriot*, and, among other things, to advance the interests of their paper, agreed to purchase from us as many copies of the *Agriculturist*, as would be needed to give one to each of their subscribers who should pay in advance. The *Patriot*, as most persons are aware, is a *conservative* paper; but, as the *Agriculturist* professed to have the promotion of agriculture, and the advancement of science, for its objects, and disclaimed any intention to engage in political discussion, the publishers of the *Patriot* felt no reluctance in sending our journal to their subscribers. The *British Colonist*, however, a paper at present *professing* to hold conservative opinions, in the course of a dispute with the *Patriot*, in which we had no concern, made the discovery, that the *Agriculturist* was a paper of the most "radical complexion," and had "always displayed the rabid qualities of its temper, particularly at the last general election"!! We feel sure our readers will not be less surprised at this discovery than ourselves. The charge is as devoid of truth, as the editor of the *Colonist* has since shewn himself devoid of honourable feeling, and therefore of fitness to conduct a public journal. As soon as we read the wanton and malicious attack of the *Colonist*, the writer of these remarks, believing that he was the individual aimed at (Mr. Buckland having had no concern in any publication in this country till within a few weeks) felt bound to answer it, through the channel in which it had been conveyed to the public, and accordingly addressed the following letter to the *Colonist*. Any other newspaper in the province would have inserted the letter, in conformity with a just and universally recognized rule, to allow those who have been attacked in their columns to be heard, through the same channel, in explanation or defence. But the *Colonist* is a singular exception, and, with his usual fairness, the editor not only refused to insert our reply, that his readers might judge in the premises, but reiterates the attack with more virulence than before, and quotes a *portion* of a sentence from our letter to prove that we "admit" the charge, while that very sentence taken as a whole, is an express denial of it. Again, he quotes a *portion* of the sentence which speaks of the "difficulty of sustaining an agricultural publication," and twists it into an intimation by us, that we intend to take up politics in our paper, in order to lessen that difficulty! Against such unfounded attacks, such shameful disregard of the courtesies of the press, and such despicable tricks of argument, it is impossible to contend. We should have taken no further notice of the matter, had the *Colonist* permitted his readers to see our defence; but as some of our political cotemporaries at a distance may be deceived as to the character and objects of the *Agriculturist*, by these misrepresentations, we have occupied our outside sheet with such observations as seemed necessary. As to our readers, they can safely dispense with the *Colonist's* sagacity in smelling out the "radicalism" or "high toryism" of the *Agriculturist*.

Whenever they find either of these *isms* in the paper, they will probably let us know of their disapprobation "in the usual way." Up to the present time, among nearly six thousand subscribers, of all shades of politics, scattered over British America, from Sandwich to Prince Edward's Island, we have not heard a single complaint on this score. And we believe, had not the *Colonist* got into a squabble with the *Patriot*, and, under the influence of jealousy and spiteful feelings against the latter journal, become reckless of truth and decency in the ejection of his spleen, we should not have heard the charge now.

To the Editor of the "British Colonist."

SIR:—In your paper of the 13th inst. you have thought proper to publish an unprovoked, and most unjustifiable libel against the *Agriculturist*, a cotemporary journal whose character and avowed objects ought to have shielded it from newspaper attack, especially if prompted by no higher incentive than the satisfaction of making a fling at a third party.

You assert, speaking of your rival the *Patriot*, "He professes to advocate the most ultra tory principles, while he embraces and incorporates the sentiments of the *Agriculturist*, a publication of the most Radical complexion, and which has *always* displayed the radical qualities of its temper, but more particularly at the last general election, when it *shone conspicuously* as a *Radical Organ*."

I beg to assure you, Sir, that you have been misinformed as to the character of the *Agriculturist*, and that your remarks, so far as they relate to that journal, are unwarranted and untrue. The *Agriculturist* was *not in existence* at the last general election, and could not therefore have "shone" in any character. The *Agriculturist* has not identified itself with any political party, nor advocated opinions that belonged to one party more than another. The *Agriculturist and Canadian Journal*, the first number of which was issued in the latter part of January, 1848, no longer exists; with that paper the writer was connected, and during the year it contained occasional observations on two or three questions of great public importance, viz., the Banks, the Usury Laws, the Navigation Laws, &c., which may in one sense be called *political* questions; but they belong to no party as such, and were not discussed in either a "Radical" or "Tory" spirit. But, sir, while I deny that there is a single line to be found in that paper, that would warrant the remarks you have made, I must inform you that the *Agriculturist*, whose "sentiments" you taunt the *Patriot* with "embracing," to the great peril of its reputation as a tory journal, is *exclusively* devoted to Agriculture and Science; is a *new* publication in form, character, and proprietary, the first number being all that has yet appeared; has no connection direct or indirect with any other paper, and neither has had, nor will have, ought to say on matters purely political, or which serve to distinguish one political party from another.

The principal editor, Mr. George Buckland, is comparatively a stranger in Canada, and has not so far as I am aware, formed or expressed any opinion upon the politics of the country. The *Patriot* of the 18th inst., I perceive, states the belief, that his opinions are "Conservative," but, though I have known him very intimately for nearly two years, I could not have expressed that belief with confidence, so little interest has he taken in our politics, and so seldom have I heard him speak on such topics. I trust, therefore, you will see and acknowledge the mistake you have made in charging the *Agriculturist* with disseminating "Radical," or any other political opinions, and the injustice you have done to Mr. Buckland, a stranger among us, whose past life has been spent in the quiet pursuits of agriculture, and who has come here with the intention of spending the remainder of it in the effort to improve and elevate that most important art in Canada.

THE CANADIAN AGRICULTURIST.

The difficulty of sustaining a respectable publication, confined to the discussion of agricultural subjects, and to the diffusion of sound information and advice, suited to the wants of the rural classes, is sufficiently great in this new country, without the unsought and unmerited opposition of political journalists.

For myself, though jointly interested with Mr. Buckland in the "*Agriculturist*," I ask no immunity on the score of my political opinions. I deny that either the present paper or its predecessor, with which I was connected, has been made the vehicle for promulgating them. And I am yet to learn, that a man must cease to be either radical or tory, in order to be an agriculturist, or to conduct an agricultural journal. I pity the man, who, in a country like ours, has no political opinions, after he has had time to form them, and is called upon to act; and I despise him, who, having made up his mind, is deterred from acting through fear or subserviency, or who can change his politics as he would his coat, to suit the state of the atmosphere. Born in Canada, and holding such doctrine, you may be assured, sir, I have formed opinions upon the politics of my native country, and when called upon will never hesitate to avow them. And I admit for the information of all who desire it, that you would be perfectly right in setting down my opinions in your present vocabulary as "Radical;" but at the same time I contend, supported I am sure by the candid of all parties, that in speaking of the *Agriculturist*, you have no right to drag in the private opinions, political or religious, of either of its proprietors, unless you point them out in the work itself. It would be just as fair in us to tell our twenty or thirty thousand readers, that the very useful Almanac you lately issued, is "a publication" of the most changeable and deceptive "complexion," and thus to excite public distrust in the integrity of its statistics, because your politics, sir, are said not to be of the most certain, or reliable character.

I ask you, sir, as an act of editorial courtesy, as an act of justice to Mr. Buckland, as an act of justice to the agricultural interests of the country, which must suffer from any cause that would lessen the circulation or destroy the efficiency of the agricultural press, to insert these remarks in your next number, and either to substantiate or retract the charges you have made against the *Agriculturist*.

I herewith send you a copy of that paper containing the article which the *Patriot* "embraced and incorporated," and would feel obliged by your pointing out the "sentiments" to which you object.

I am, Sir, your very humble servant,
Jan. 20th, 1849. WM. McDOUGALL.

We think it also desirable to place before our readers the following letter of Mr. Buckland, as published in the *Toronto Patriot* of Jan. 22, that they may see and judge for themselves, respecting the principles of the conductors of the *Canadian Agriculturist*.

To the Editor of the *Patriot* :

Sir—Little did I imagine, that within the short space of a fortnight after commencing my duties as the principal editor of "*The Canadian Agriculturist*," I should find myself somewhat unpleasantly involved in party politics. The *British Colonist* has most unwarrantably designated the periodical with which I am connected, as a violent radical print, and accuses you of gross inconsistency for inserting, in your favourable notice of the publication, its introductory article, which was written by myself. As my partner has written to the *Colonist*, to correct his misstatement, and you, in your yesterday's publication, have said, perhaps, all that is really necessary, in reply to so unprovoked an attack, I had resolved on remaining wholly silent; but, upon second thoughts, it occurred to me, that, as you have expressed an opinion that I am conservative in my sentiments, therefore not, as the *Colonist* would insinuate, a radical,

a few words on my part may not appear uncalled for. I must protest, however, against the way in which I have been thus publicly associated, both without my knowledge, and certainly against my inclination, with party politics. Nothing I have said or written, either since or prior to my arrival in this country, would justify such a proceeding. I never have been mixed up with political parties and squabbles, and, from the little I have learned of the state of such matters here, I sincerely trust I never may. I came out to Canada for a very different object; and, if the Agricultural paper with which I have connected myself cannot be sustained on strictly neutral grounds, so far as I am concerned, it shall fall.

I hope, Mr. Editor, if I continue in this country, to employ my humble talents in promoting peace and good will, in the diffusion of useful knowledge, the improvement of agriculture, the advancement of the social and moral condition of the people, and of those great principles of our common Christianity, which all good men both believe and practise. All prejudices of race, party and creed, should, as far as possible, be merged into the generous love of our adopted country. If our politics were thoroughly imbued with this spirit, how many causes of social bitterness and individual heart-burning would be removed!

If I am not trespassing too much upon your space, will you make room for the following extract from the conclusion of a speech, which I delivered at a large agricultural dinner in my own neighbourhood, only a few days before I left England, in the spring of 1847; my highly esteemed friend, Mr. Law Hodges, M.P. for the county of Kent, was in the chair. The report is from the *Maidstone Journal*.

"In leaving my native country, I rejoice to know, that I shall not resign either the rights or duties of a citizen, by ceasing to become a British subject. For, after all, what are our colonies; what, for instance, is Canada, but a great outlying county of Old England, an integral portion of our great and glorious Empire. I shall endeavour to realize and cherish the patriotic sentiment of the poet:

"Far as the breeze can bear the billow's foam,
Survey our Empire, and behold our Home."

"And now my friends, in saying to you farewell, pardon me if I manifest a more serious tone than is usual on these convivial occasions. In a few days I and mine will be on our way upon the great deep, in the bark that is to carry us to our distant home; I again assure you, that I have resolved on this important step, not because I am dissatisfied with my country, or have failed to receive the sympathy and encouragement which I think I may have deserved. I shall always look back with pleasure on past scenes and connexions, and the little I have been enabled to do for the improvement of our common pursuits. I feel an undiminished attachment to my native land; I love her institutions, her religion, and her laws; and hope wherever my lot may be cast, that I shall never forfeit the good wishes and opinions you have so kindly expressed. In commending you, and mine, and all our interests, to the care and keeping of a gracious Providence, I now bid you farewell."

These were the sentiments with which I left my native country, and I am not ashamed to say that they are my sentiments still. Whatever may be the political complexion they may be supposed to assume here, I care but little, only I must protest in my present blissful state of ignorance of the many ins and outs of colonial politics, against the supposition of wearing the livery of any party.

It is thus, I assure you, very pleasant to my feelings to be not compelled to say so much about myself; circumstances not of my choosing must plead my excuse.

I am, sir, yours, most respectfully,
Toronto, Jan. 19, 1849. GEO. BUCKLAND.