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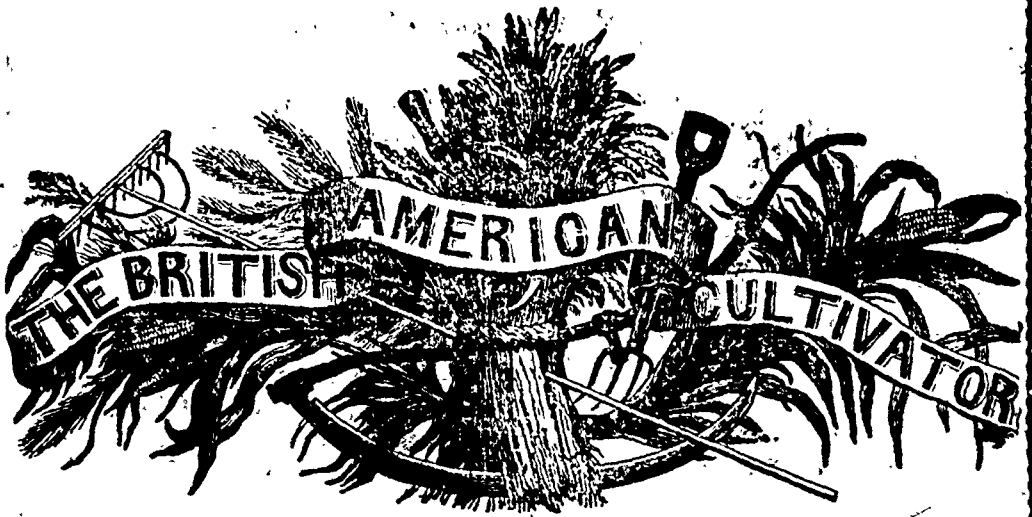
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"Agriculture not only gives Riches to a Nation, but the only Riches she can call her own."

New Series.

TORONTO, APRIL, 1847.

Vol. III. No. 4.

Management of Land for Spring Crops.

THIS of all other operations on the farm is of the most importance to the practical agriculturist at this season of the year. At a period like the present, when millions of human beings are in actual danger of starvation—it certainly behoves every farmer, both in Canada and other Agricultural countries, to make use of every proper means to increase the productions of the soil to the greatest possible degree. Although it would be extremely difficult to devise any mode of managing land that could be profitably practiced on *all* soils, still the importance of the subject forbids silence when we feel confident that the suggestions we have to offer, if honestly put in practice by the Farmers of Canada, will be productive of an almost incalculable amount of good.

SPRING WHEAT.—The land intended for this crop should have been prepared late in last autumn, so that the seed could have been sown by the middle of this month, or as soon as the ground becomes sufficiently dry to harrow properly. Where this arrangement has been made, the very earliest opportunity should be embraced to put in the seed. As an evidence that spring wheat cannot be sown

too soon, we may refer to the fact that in the Townships bordering on Lake Simcoe, it has become a very prevalent practice, to sow it late in the autumn, just before the ground closes up with frost, by which means ten bushels per acre have been added; and indeed we have repeatedly tested early sowing on our own farm, and have become convinced that the earlier the seed is sown the better, provided that the land be in good order for harrowing at the time of sowing.— If the land has to be ploughed in the spring the sooner it can be done the better, for as it has been already stated, it is of the greatest consequence to get in the seed early. In some sections of the country it is becoming a very popular method to plough in the autumn, harrow in the spring, and rib the land with a one horse plough, so that the seed, when sown broadcast, falls in the bottom of the furrows, by which means the plants come up in rows from ten to twelve inches asunder, as regularly as if the seed was drilled with a machine. This system has been found to increase the average yield on deep rich soils, and if practiced on light soils—such as produce short crops of straw—and the land cleaned twice in the early part of the season with a horse hoe, which might

be made to clear from three to five rows at once—the products from the land under such treatment might be more than doubled. As many will be disposed to doubt this statement, we would advise all whose average yield of spring wheat does not exceed 20 bushels per acre, owing to the comparative leanness of the soil, to either rib or drill one acre the present season, and to test the plan of cleaning and working the ground with a horse hoe. It will cost from 7s. 6d. to 10s. per acre to hand hoe wheat—and the two hoeings will not cost at the outside more than one pound. In nineteen cases out of twenty, it will add from 12 to 15 bushels to the produce of an acre. If the quantity above be considered too much for an experiment, a much smaller piece will answer the desired end.

The best preparation of land for spring wheat is either an Indian corn, potato, or swedish turnip fallow which had received a very liberal manuring for these crops. The yield of wheat greatly depends upon the amount and quality of manure applied to the soil for the root, corn or green crops, and the attention observed in keeping these crops well worked with the plough and horse and hand hoes. As soon as the root crops are removed, the land should be ploughed in ridges, to be in readiness as previously observed for early spring sowing. It has become too prevalent a practice to sow spring wheat on land, that is scarcely capable of producing oats, but no sensible farmer will sacrifice his crops by such slovenly cultivation. It is possible to prepare the land for this crop in such a perfect manner, that it would be safe to calculate upon a yield of forty bushels or upwards per acre, and it would be well for those farmers whose crops do not equal more than half that quantity to make a few experiments, with a view of ascertaining the actual cost of an improved system of cultivation. As an encouragement to those who may take the trouble to give the foregoing suggestions a trial, we shall report the result of a similar experiment that lately came under our notice. A wealthy Markham farmer, planted five acres of root crops in 1845, with a view of sowing spring wheat on the land the following season. The soil was ploughed ten inches deep for the root crop, and was otherwise managed for spring wheat, as described in the foregoing remarks. The variety of wheat sown was the Siberian, which yielded the almost unprecedented quantity of 72 bushels of the best quality of wheat per acre. Although it would be absurd to expect as large a yield as the foregoing, even under the most favourable circumstances, still we repeat that at a very trifling expence with careful cultivation, the average products of the Canadian spring wheat crop might be made to equal from 30 to 40 bushels per acre.

One great point to be observed, is the choice and preparation of seed. Much pains should be taken to obtain the very best samples of grain for sowing, and in its selection its purity from other grains and seeds, as well as to the appearance of the grain and its flouring quality should prominently be kept in view. It is false economy to sow an inferior article of grain, when, by a very trifling extra outlay a good quality could be procured.

A great diversity of opinion exists among farmers, respecting the merits of different varieties of spring wheat. The Siberian has fully equalled the high character that has been given it by the Agricultural Press, in all cases where the ground has been well prepared for the seed in autumn, and the earliest opportunity for sowing in the spring has been embraced. It is useless to sow this variety unless it can be done very early in the season, as it requires a longer period to come to maturity than some of the other kinds, and is quite as subject to rust as any other variety. Under proper management it is pretty safe to calculate upon a larger produce than can be had from any other description of spring wheat, yet introduced into this country. There are more than twenty varieties of spring wheat in Canada, all of which have their admirers, and some are better adapted to one description of soil than others—we leave our readers who are competent judges of such matters, to decide

which variety would be most suitable for their soils, but before they fully determine the question it would be well to test several kinds, so that the most productive for each description of soils may be fully ascertained by each cultivator.

The past autumn and winter have been very unfavourable for fall sown wheat, and in naturally wet and undrained land, a large proportion of the wheat plants will doubtless be destroyed by the frost, through the want of a sufficient quantity of snow to protect the plants. In all cases where winter wheat has received severe injury from the above or other causes, it is advisable as soon as the ground is sufficiently dry in the spring, to harrow well and sow the land with spring wheat. Some might think it advisable to plough the land before the seed be sown, but if this be done, it should be very lightly.—The best implement for this purpose is a strong cultivator or scarifier, which should be so regulated that it could not enter the ground deeper than three inches.

The foregoing hints are based upon practical experience, and we feel satisfied that it would be advisable for every farmer who sows spring wheat, to adopt either the system we have submitted for public trial, or such other enlightened method of cultivation, as will be the most likely to give a liberal return from the soil.

OATS AND THEIR DIFFERENT VARIETIES.—There are a great number of varieties of oats, which have been produced by cultivation, difference of the soil and climate and other causes. They are principally distinguished from each other by the names of black, grey, and white. The oat is a native of cold climates, and hence is found one of the most productive and valuable crops grown in the British American Province. It may be profitably grown farther north than wheat, and in some of the Eastern Provinces from 60° to 70° bushels of this crop may be safely relied upon with ordinary cultivation, whereas the same soil would bring wheat to perfection only in very favorable years, and then a greater quantity than 15 bushels per acre cannot be expected. As an article for feeding not its superior, but it is yearly

growing more into favourable as a leading article of diet for the human family, and for this purpose alone it will become the present season a very profitable article of Canadian export. Oatmeal is becoming a great favourite with most of the Canadian families, and its use will doubtless greatly increased since the failure of the potato. Land can scarcely be too rich for oats, and although the price is generally low in the Canadian markets, still they will pay about as well for good cultivation as any of the other crops grown in the country. We have on our own farm repeatedly harvested crops of oats that have yielded 80 bushels per acre, including in the average from 10 to 15 acres—these very productive crops were the result of good cultivation, and not the mere operation of chance or luck. After trying nearly a dozen varieties of oats, we have determined that the common grey variety are more productive, and yield a larger and more certain return than any we have acquaintance.

American Manufactured Duck.

We observe a short notice in the *Farmer and Mechanic*, of an article manufactured by Mr. J. Goulding, formerly of Louisville, from Kentucky hemp,—which the Editor remarks “will soon become not only a desirable, but a decidedly popular article in the commercial world. The most expensive article of the sort now made is the Holland Hempen Duck, which is not so handsome a fabric as that made of flax. Mr. Goulding's specimen is excellent in all respects, and in appearance resembles the flax duck.” Mr. Goulding himself says, “it is made of Kentucky dew-rotted hemp,” and on looms made by himself, altered from machines he had seen in England. He does not describe his mode of working farther than by saying, he “can weave as thick or as thin, as there is any call for.” Can some of our Canadian manufactures not endeavour to rival our go-ahead neighbours in this fabric? No soil is better adapted than our own, for the produce of flax and hemp—all that our farmers require is a good market in which to dispose of their crops. Let every endeavour be made to create one. The water power we possess is no where surpassed, and it is quite certain that a portion of the capital of the country can in no way be better employed than in manufacturing strong woollen, flax and hempen goods, suited to the wants of its inhabitants.

Lime and its Uses.

BY R. L. PELL, ESQ., OF PELHAM.

Read before the Farmers' Club of the American Institute, and communicated to the Farmer & Mechanic for insertion.

I was informed, in Edinburgh, Scotland, by a highly educated gentleman that many farmers in his neighborhood were accustomed to use from 500 to 1000 bushels of slacked lime per acre; he further said that there were farmers owning peat moss farms in the north of England, and likewise in parts of Ireland, who had used eleven and twelve hundred bushels per acre. They occasionally used, with very good effect, salt with their lime. I saw a farmer living on the domain of the Duke of Buccleugh, near the borders of England, sowing lime, on which he said he had put about six bushels of salt per acre; he was sowing at the rate of 400 bushels. The year previous, by the application of salt and lime, he had produced $3\frac{1}{2}$ tons of hay to the acre, when the contiguous lot only yielded two tons. For the last five years, I have always used a small quantity of salt in all my compositions for grain, grass, and root crops, taking the idea from the Scotch farmer. I invariably soak my cereal grains in a strong salt brine before planting, and have on two occasions used scalding brine upon wheat, with great success. The effect was to swell the grain to a size that it could not attain in the earth, under ordinary circumstances, in three weeks. The aquaspine was in many cases plainly discernable.

In potatoe culture, lime I believe to be a sovereign remedy, if properly applied, against the evil effects of insects, which cause the rot now so prevalent throughout the world; the tops of potatoes contain a very large percentage of lime, consequently, it is indispensable to its growth. Place lime upon a heap of potatoes, the majority of which are half decayed, and you will find decay in the balance will immediately cease. I have sown lime at the rate of 200 bushels per acre, upon half a ten acre field of wheat, and left the balance unlimed. The consequence was, the unlimed portion was *entirely* destroyed by the weevil and rust—when the limed portion produced fifty bushels to the acre of wheat, weighing 64 1-2 pounds to the bushel. I have seen the same effect produced in oat, rye, corn, potato, and buck wheat fields. When you find a field does not

produce a crop equal to your anticipations, in nine cases out of ten, an application of 200 bushels of oyster shell lime to the acre, at a cost of 12 dollars, will produce capittal crops for six years afterwards—at the expiration of which time, if the ground is not ploughed deep during the interim, you will find at the depth of 11 or 12 inches, a complete level floor of lime, which gradually finds its way to the subsoil, where it forms a level surface, and remains until brought up by deep ploughing; it will then benefit your soil for another term of years, in the form of chalk, its action as a solvent having ceased. Abroad chalk is more used for agricultural purposes than any other, limestone species; it is composed of flint, clay oxide of iron, carbonate of lime, and water. Lime is therefore one half more profitable as a manure than chalk; for the reason that it dissolves hard substances, and fits them as the food of plants, before it again absorbs carbonic acid gas in sufficient quantity to become as chalk. There is one question I have to ask of learned members of this club which is this—how do plants take up in their system carbonate of lime, which is known to be an insoluble substance, and yet in all plants and vegetables, carbonate of lime is found to exist. It can only be, I think by attracting a large volume of carbonic acid from the atmosphere which becomes a bi-carbonate, and in this state is soluble and capable of being taken up by plants.

I had a conversation the other day with a scientific agriculturist, Mr. Wilkins, who has an extensive rice plantation in South Carolina, on the subject of lime. Mr. W. states that a portion of his plantation was considered by his manager, as unfit for rice cultivation, or in fact any other. He advised that it should be thrown out rather than lose the time requisite to reclaim it. M. W. thought otherwise, and determined to lime it—although the land was exceedingly wet. M. W. ordered his slaves to carry the lime on in baskets. It was spread over the field and hord in; the rice was then sown and cultivated in the usual manner.

The result was 56 bushels of rice per acre, a larger yield than was usually attained on any other part of the domain. That piece of land contained all the chemical requisites, eleven in number, except lime; the consequence was, no crop could be grown upon it, and it was considered barren; whereas, by application of perhaps \$2, worth of lime per acre, it was rendered highly fertile, and capable of yielding a fine crop of rice—proy-

ing what I repeatedly asserted—that if one of the eleven chemical substances contained in all cultivated crops, be entirely absent from a soil, that soil is incapable of producing those crops, and to all intents and purposes is a barren soil. Thousands of acres of choice land are now deserted in the Southern States, and hundreds in our own State, which might probably, by the application of lime alone, be made to yield 50 bushels of wheat per acre. I mention lime particularly, because it is used by all plants in larger quantities than either of the other chemicals, and consequently the soil is deprived first of it. Sulphate of lime is another most important manure, and especially beneficial to grass crops—for the reason that it adds to the soil one of the indispensable eleven—viz, sulphuric acid, which is just as necessary to the growth of plants as lime, and without which no crop can possibly grow. It consists of

Sulphuric acid,.....	32 parts,	} parts in 100.
Lime,.....	30 parts,	
Water,.....	33 parts,	

Liebig says that 100 pounds of gypsum, or sulphate of lime, gives as much ammonia to soil as 6,250 pounds of horse's urine would yield to it: four pounds of gypsum, he affirms, increases the produce of the meadow 100 pounds. The decomposition of gypsum is very slow, and consequently its action lasts many years in the soil. Although sulphuric acid is required by nearly all plants, still it is only required in small quantities; therefore, when a man spreads a quantity of plaster over his fields, the effects last for several years.

I have frequently heard farmers say, that they did not consider plaster of any service, except the first year, when the results were great—that they had continued to put it on in quantities, year after year, without perceiving any superiority in growth over the first year, and that they had determined not to use any more of it. Now, the fact is, if they used 500 pounds to the acre, a sufficient quantity of sulphuric acid was added to the soil, to last any crop you could put on the land for four years, and consequently, any additional quantity was superfluous and perhaps hurtful.

If you cannot readily obtain plaster, no better substitute can be found than anthracite coal ashes; they contain 10 per cent of sulphate of lime, 10 per cent of lime and sand, together with oxide of iron, alumina, azote, silica, magnesia, oxide of manganese, sulphuret of iron, and alkaline salts. Sixty bushels of coal ashes per acre, would be

equal to six bushels of plaster (as far as sulphuric acid is concerned) for grasses. I can assure you, there is no manure that I have tried, the effects of which are more immediate and certain, than coal ashes. Last summer I experimented with it upon clover and Timothy grass, and likewise upon trees, with great success, and recommend its use to all. The proper plan for all young farmers would be, when they purchase a farm, to become acquainted with the properties of the soil by analysis. They should understand analysis themselves, to some degree—if not, for \$20 they may have their soil analyzed, instead of proceeding in the dark, wasting manure, seed and time, they will know precisely the substance deficient, and by applying it, will frequently produce great results at a small cost. Next to lime, the substance must probably absent in all cultivated soils, will be bone earth. By all the analysis recently made, bone earth and potash, are found in less quantities than any other substance, except perhaps lime. They are both indispensable to all crops; I would therefore advise the frequent use of bone dust, lime and ashes, upon all soils that have been long under cultivation.

It is the want of these three substances, particularly, that has rendered not only the soils of all our old States, once so fertile, and almost inexhaustible in the estimation of the first settlers, now barren wastes. The old Countries too may be held up as examples; the Island of Sicily, once the granary of Southern Europe, now import their breadstuffs; the soil of Italy, in the neighborhood of Rome, once affording food for hundreds of thousands, is now sterile. Such will be the case in the whole of Europe, as well as in this Country, if the present system of arranging drains in all the large cities, to carry millions of dollars worth of the fertilizing and enriching manures into the ocean, is not stopped. If we take from our soils annually, all its productions and return nothing to it, exhaustion will of course be the consequence. Liebig says, every farmer is a practical chemist; if so their practice is bad. He further says, "there is no profession which can be compared in importance with that of agriculture; as to it belongs the production of food for man and animals—on it depends the welfare of the whole human species, the riches of States, and all commerce."

To Destroy Insects on Trees, Shrubs, &c.—Tie up some flower of sulphur in a piece of gauze, and dust the plants with it.

Local Agents.

We beg to acquaint the patrons of the *Cultivator* and *Advertiser*, and the public generally, that we purpose to appoint an agent in every city, town, and township in Canada, as soon as practicable, whose duties will be, to get subscribers for these works, obtain advertisements for the *Provincial Advertiser*, to furnish us with correct statistical and other useful information, in respect to their several localities and other improvements; and to receive orders for the Improved Agricultural Machinery that we may introduce into the Canadian market.

It will require some months to complete this arrangement, but we have resolved to lose no time in enlisting, if we may be allowed the expression, an intelligent and responsible person in our service in each of the divisions of the country above mentioned. We shall announce, from time to time, the names of the agents, and the locality in which they will be expected to act, as before described; and in every instance where such announcements are made, the system of clubbing for the papers will of necessity be inoperative,—or in other words, in every such township or town, the subscription for these works will be invariably One Dollar. No one, we believe, thinks that too high a price for the *Cultivator* and *Advertiser* together; and our candid readers will readily understand that we must remunerate our agents for the exertions they make, the loss of time they incur, and the trouble and expense they are at, in properly doing their duty; but, on the other hand, by this means, we trust and confidently anticipate, that we shall be enabled to make our productions the means of conveying to our readers such a body of correct, minute, and well digested general information as shall be both instructive and palatable to them.

Having only recently determined upon this plan, which, however, is partly organized, it cannot be expected that a list of efficient agents can yet be given, but we hope very shortly to be able to devote

a little time in farther corresponding with our friends in different sections of the Province, with a view of obtaining their advice and assistance in the selection of suitable agents. From the foregoing announcement, our readers will be able to judge pretty correctly, of the duties and offices we propose to impose on our agents; and, as the old but trite maxim “that one volunteer is worth many pressed men,” will doubtless hold good in the choice of agents, we are greatly in hopes that very many influential supporters, possessing good practical education and active business habits, will immediately come forward and offer their services to render us every assistance in carrying through the plan projected. Of course we fully intend to indemnify liberally every agent who will volunteer or consent to act as such.

In the next number of the *Provincial Advertiser* we shall publish a list of agents already appointed, and shall give additional names in subsequent numbers of the same journal.

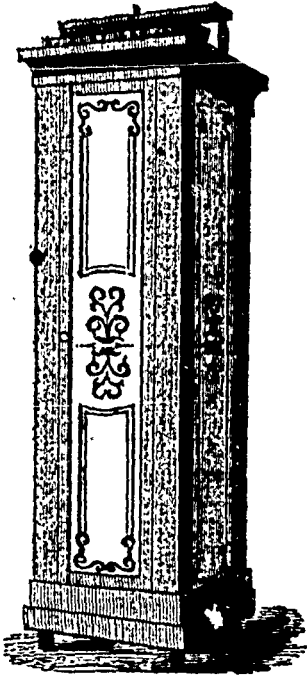
Stump Extractor.

A subscriber of ours in the Town of London desires some information respecting the stump machines lately noticed in our magazine. In reply, we beg to state, that one man, a boy, and a horse, is all the power required to work it. From ten to twenty of the largest stumps may be pulled per day, and the very largest sized may be extracted without any difficulty. The machine is not liable to get out of repair, and if any part should give way, it would cost but a trifling sum to put it again in complete order for work.

A farmer in the Gore District, purchased one of these machines last autumn, and in the short space of six weeks, cleared forty acres of land that was thickly covered with the largest description of pine stumps.

It is proper that we should here state, that the first machine of this kind used in Canada was imported by Franklin Jackson, Esq, the President of the Township of York Agricultural Society, in the spring of 1846. The price of that machine was £21 5s. at the factory in N. Y. State, and we offer a larger and better article, delivered here, for £17 10s—payment in all cases being required

in advance. Mr. Jackes is highly pleased with his machine, and informs us that he is satisfied that it will pull any stump in the Township of York, of which many are from four to five feet in diameter.



Sliding Top Chamber Shower Bath.

The Bath is seven feet in highth, and occupies a space of only two feet square upon the floor.— It is designed for chamber use, and makes a very pretty piece of furniture. The sliding top frame which supports the water basin, and to which the showering plate is attached moves up and down in the grooves of the upright posts of the Bath, and is drawn down by the hand to receive the water, where it is held by a button until the basin is filled, when by turning back the button with a slight upward pressure of the hand, it will rise to the upper part of the frame work of the Bath.— The person who wishes to bathe then steps in, pulls the cord and the water comes down in a copious shower upon him. A pan beneath the bottom receives the water that descends through a small aperture left open for that purpose.

The simplicity of this bath is a great recommendation, as there is no complicated machinery about it, it will last many years without repairs.

In every age and almost in every country, even among uncivilized nations, the value of bathing

appears to have been acknowledged. Bathing may be considered in a two fold point of view: as a means of preserving health by keeping the skin in a state fit for performing its functions, and as an agent for the cure of disease. The cold bath when used by persons in health, increases the tone of the habit, strengthens the digestive organs, and by diminishing the sensibility of the whole system, and particularly of the skin renders the body less susceptible of atmospheric impressions from cold, wet, and sudden changes of temperature, thus contributing to the production of a robust constitution. Hence the beneficial influence of using the cold bath daily, and that especially early in the morning. If used in the evening the water should be warmed.

We have a large supply of these machines on sale, at the Provincial Agricultural Warehouse. Price from £4 10s. £6, each.

TARES OR VETCHES.—The ground best adapted for this crop is a clean wheat stubble, which should be ploughed as early as possible in the spring. Where this crop is sown for soiling, it is well to sow early at the rate of two bushels of vetches, and one and a half bushels of oats well mixed, per acre. A top dressing of ashes or gypsum when the plants begin to make their appearance above the ground, would promote an early growth, so that by the middle of June, they will be fit to cut for feeding stock, and they will continue to be nutritious and wholesome food for horses and horned cattle, until the second growth becomes sufficiently advanced for that purpose. The oats will prevent the vetches lodging, and will consequently keep them free from dust and other impurities. The second crop will in an average of seasons produce an abundant yield of seed, and upon the best description of soils a yield of 20 bushels per acre may be safely relied upon.— Every farmer should unquestionably sow a small portion of his farm with vetches, by which means he would be provided in the months of July and August, with a most valuable stock of green provender to feed his cattle, when in all probability the pasturage will be short, owing to the influence of extreme heat and drouth. This crop when only once cut, is one of the best preparatives for wheat, as the latter is seldom if ever lodged, or destroyed by rust. Vetches given to milch cows produce abundance of very rich milk, and consequently the finest butter.

The Canadian Agricultural Society.

WE are much pleased to have to announce, that the good example shewn by our Farmers of Western Canada, is being followed by their brethren in the Eastern Division of the Province. A Society has been organized in Montreal under the above title, having for its objects the carrying out of similar patriotic views, as regards Agricultural Improvements, "and the diffusion of sound and useful knowledge on all subjects connected therewith," as are entertained by our own Association, "The Provincial Agricultural Society for Upper Canada."

We are so highly delighted with this movement in the Eastern Division, that we shall not fail, not only to cultivate and "maintain a good understanding" with, but shall do all in our individual power to foster and assist the young Society. In evidence of which we cannot do better, than in the first place, to publish and give wide publicity, by means of this paper, to its constitution, for a copy of which we are indebted to the *Montreal Transcript*.

Canada is so circumstanced that it is proper, nay perhaps requisite, that she should have two National Agricultural Associations—one for each of the great divisions of the Province. There is ample scope for the operations of both, and as we like to see friendly rivalry, we trust that the benefits which can be shewn to flow from the operations of either, will spur on the other to greater and still greater exertions. We cordially wish both every prosperity.

At the meeting at Montreal, it was unanimously resolved—

1st.—That it is expedient to form an Association to be called "The Canadian Agricultural Society."

2nd.—That the members of this Society shall be composed of persons subscribing five shillings annually, or upwards; and persons who subscribe two pounds ten shillings or upwards, shall be constituted members of this Society for life.

3rd.—That the Society shall be governed by a President, six Vice-Presidents, and twenty-four Directors, a Secretary, and Treasurer, and in

order to afford the District of Quebec an opportunity of directly co-operating with the Society, they shall be entitled to appoint six of the Directors, and, after this year, two of the Vice-Presidents also.

4th.—That the Society shall meet annually, in the month of March, for the election of Officers and Directors, and for the consideration of any other matters that may be submitted to them, and, if necessary, a general meeting may be called at any time on the requisition of the President, and a majority of the Vice-Presidents and Directors, made to that effect by the Secretary.

5th.—That the Directors shall hold quarterly meetings, and oftener if necessary, and at such meetings, and all meetings of the Society, the President or one of the Vice-Presidents shall preside. That at the Quarterly meetings, or any meeting of Directors for transacting the business of the Society, it shall be necessary that the President, or one of the Vice-Presidents, and one-fourth of the number of Directors be present to constitute a Board.

6th.—That the object of the Society should be chiefly directed, for the present, to promote the interests of all classes dependent upon agriculture, and to diffuse sound and useful knowledge on all subjects connected therewith; to encourage the cultivation of such new plants and crops as they shall conceive it would be advantageous to introduce, and do all in their power to promote the general improvement of the system of farming,—as regards draining, manuring, crops, pasturage, stock, management of the dairy, farm implements and every branch of rural economy.

7th.—That the Society should endeavour to procure the establishment of an Agricultural College, similar to that established at Cirencester, in England, for the instruction of youth in the science and art of Agriculture, and other arts connected with Farming; and have a model farm attached that might pay expenses,—and, if possible, model farms in more than one section of the country; also, an Agricultural Museum, and one or more Agricultural Libraries.

8th.—That, in order to form a communication with every section and parish in Eastern Canada, the Clergy of all denominations be elected Honorary Members of the Society, and be respectfully invited to co-operate with them in circulating useful suggestions and instruction amongst the rural population, and in obtaining correct statistics of the state of Agriculture, its produce, &c.

9th.—That the Municipal Councillors and School Commissioners throughout Eastern Canada be also invited to aid this Society in their endeavours to promote the improvement of the general system of Agriculture.

10th.—That this Society shall not obstruct the useful erection of other Agricultural Societies, but only make up any deficiency, and endeavour to do what other Societies may leave undone for promoting the general improvement and prosperity of Canadian Agriculture. That the Society should maintain a good understanding with all the County Societies, having only the same object in view—the good of the country, and reciprocally offer to and receive from other Societies, any suggestions, that might benefit the cause which all connected with Agricultural Societies assume to have in view; and this Society should rely upon public support in proportion only to their exertions to promote the general welfare of the country and its inhabitants.

11th.—That in order that the Society may go into immediate operation, before the meeting of the Provincial Parliament, the gentlemen hereafter named be respectfully solicited to act in the capacity assigned to them respectively.

[The names not to be published until the assent of the gentlemen is obtained.]

12th.—That this meeting, convinced that Agriculture is the first and principal interest in this Province, and must form the basis of the country's prosperity, have presumed upon the patriotism of the gentlemen named as Officers and Directors of the Society, without communicating with them, and they hope that, from the admitted importance of the subject, no gentleman who has been named will decline acting in a matter that can have no object but the public good, and, more particularly, as the greater amount of respectability and talent that is induced to act in the Society, the more good will be likely to result to Canada.

13th.—That the Secretary be authorized to send the proceedings of this meeting, for publication, to one or more of the Montreal newspapers; and also to send printed copies of them to each of the gentlemen named, who are respectfully requested to signify whether they will act or not; and, when answers shall not be received, the Secretary is hereby authorized to give notice, as soon as conveniently possible, for a meeting of the Board of Directors, at Montreal, which meeting shall be authorized to nominate other gentlemen in place of those who may decline to act.

JOHN CLARKE, *Chairman.*
WM. EVANS, *Sec. & Treas.*

Montreal, March 3, 1847.

It will be seen that besides the promotion of the interests of all classes dependent upon Agriculture, the diffusion of knowledge, the encouraging the 'culture of new plants and crops, and the introduction of a general improvement in the system of farming, which are provided for by the 6th resolution, the Society in the 7th, contemplates the formation of an Agricultural College, having a model farm attached—and if possible, model farms in more than one section of the country; and also, an Agricultural Museum, and one or more Agricultural Libraries. These are all, and each, most praiseworthy objects—and we ourselves have long most ardently desired to witness their Institution both in Eastern and Western Canada. We think that the Library and Museum ought first to be attended to, and that these can easily be accomplished by the exertions of the Society itself. But as to a College and Model Farm, we are afraid that Government aid is indispensable. We would, we confess, not like to see these attempted unless their condition and means were so flourishing that they might really be *efficient*—for we think that their existence in a sickly, pining condition, would tend more to the retardment than to the developement of Agricultural Improvement. But if properly established and supported, Colleges and Model Farms would most certainly give a vast incentive to the improvement of our country. Canada is much dependant on her cultivated productions—and what can Government do better for her than put the means of acquiring a minute, and scientific knowledge of every branch of science and art, and chiefly of that of Agriculture in the power of her sons?—(without a model farm they cannot acquire a minute, and without a College, they cannot obtain a scientific knowledge.)

We entertained great hopes that much will speedily be done by Government, when we perused the many patriotic observations of his Excellency the Governor General, Lord Elgin. In fact we anticipate a *New, a Golden Era* to Canada, under his Administration, especially in Agricultural Improvements.

Agricultural College in Toronto.—In reference to our previous articles in the *Cultivator*, on the establishment of an Agricultural College in this, the upper part of the Province, we can scarcely sufficiently express the high satisfaction we have in announcing that we have received a letter from Mr. Buckland, stating the probability of his reaching our city in a few months.—We confidently anticipate, from his high attainments in General Literature, his intimate and practical knowledge of the art and science of Agriculture and Agricultural Chemistry, his great devotion to these studies and his happy mode of conveying instruction, both orally and in writing, to others—combined with his excellent moral character as a polished gentleman and a sincere Christian—that we shall shortly be enabled to greet him as “Professor of Agriculture” in our own University; and our readers may expect, by and bye, to have the pleasure, and enjoy the benefit of perusing many popular articles from his prolific pen. Meantime we proceed to lay before them a few extracts from Mr. Buckland’s letter, some of which deserve to be printed in *letters of gold*. In speaking of the deep anxiety he feels in the projected undertaking, and the leaving one’s country, and severing, perhaps for ever, the tenderest ties, he adds, “Yet I look forward with hope to the encouraging sympathies of kindred spirits, and the blessing of a Gracious Providence, which is never withheld from sincere and well directed efforts, in the cause of human progression.”

After mentioning the Agricultural Institutions on the continent of Europe, and his intention again to visit the only College of Agriculture in Britain, (Cirencester), he says, “we have several schools in which the principles of farming are professed to be taught,—but they are, I believe, upon the whole, of no great worth, and I anticipate but little practical benefit from them. Youth destined for farming, should not only be taught the principles of science in the class room, but to make them efficient farmers and successful men of business, they must learn practical husbandry, on the farm, and be able not only to superintend, but to work with their own hands.

We should teach the young not only to work, but also to appreciate and honor labor. This is a great difficulty in the way of managing all really useful Agricultural Institutions in this country.—I presume it will not be so much so with you. We are doing much thro’ the medium of Farmers’ Clubs” And he inquires “what is the condition of Popular Education in the Province? Could not some Elementary instruction in Agriculture and Science be beneficially introduced into your District schools?”

Our readers are aware that we have in the *Cultivator*, frequently and zealously advocated the establishment of Agricultural Institutions. Those who preserve and bind up our paper, which all ought to do, are respectfully referred to our several articles. To every observation therein contained we firmly adhere.

As the subject is one of vast importance to the prosperity of our country, and the consequent welfare and happiness in this world, of all its inhabitants, we shall frequently recur to it, thereby endeavoring earnestly to strive in “the cause of human progression,”—feeling satisfied with the well grounded reflection, that if, in any way, our “efforts” in such a mighty and interesting subject as the well-being of our race, fail to be “well directed,” our readers will give us the credit of believing, that they are, at least ardent, and “sincere”!

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TO AGRICULTURAL SOCIETIES.—The Editor of the *British American Cultivator*, takes this opportunity of informing the Boards of Management of the Agricultural Societies in British America, that he is now prepared to attend to orders for Agricultural Machinery, live stock, and the improved varieties of grain and seeds, as are produced in Canada or in the bordering States.

If Agricultural Societies would adopt the system of purchasing specimens of the improved machinery that we shall be instrumental in manufacturing, and have them put up at public sale and sold to the highest bidder, such a course would both encourage us to take the necessary steps, to introduce into the Canadian markets the improvements in labour-saving machinery of other countries, and would also be a means of effecting rapid strides in Agricultural improvements in these colonies.

We shall make it a point to put all articles to a trial before offering any of them for sale, by

which means only the very best machinery will be sent out of our Warehouse.

TOWNSHIP OF YORK AGRICULTURAL SOCIETY.

—We attended the monthly meeting of this Society, announced in the March number of the *Cultivator*, and we regret to say that we have barely space sufficient to give a brief sketch of the proceedings. Among the numerous subjects discussed, was that of the disease so fatal to the potato plant, with the most feasible remedy, and the cultivation of soiling crops for feeding cattle. It appeared to be the opinion of many, that the potatoe crop was injured by an insect, and that by planting early and digging the crop before any symptom of disease was perceptible on the plants, there might be a possibility of obtaining a supply of this valuable root quite free from the disease.

One of the most valuable crops for soiling that was spoken of, is Maize or Indian corn. The ground was recommended to be made extremely rich with barn yard manure, and, as soon as the season is sufficiently advanced to be secure from the attack of frost, the seed should be sown broad cast or in drills at the rate of two bushels per acre. Upon good rich soils from seven to nine tons of excellent winter fodder can be safely relied upon in an average of years from an acre, and by sowing early the crop may be removed off the ground sufficiently soon to admit of the sowing of winter wheat.

A premium list was agreed upon for the spring Fair, which will be held at the Village of York Mills, on the second Monday in May. The very handsome sum of twenty-two pounds is to be awarded in prizes, which does not absorb any of the subscriptions for the current year. We were highly flattered with the honor done us in the third prize, for each article, being appointed to consist of the two volumes, new series, of the *British American Cultivator*. These shall be supplied by us at the wholesale price, and we shall be most happy to do the same to all the other Agricultural Societies in British America.

Cultivation of Land, and Management of the Pea Crop.

The best soil for peas is a strong rich clay loam, but by judicious management very productive crops of this highly valuable grain may be

grown upon almost all the different qualities of soil found in Canada. Both the soil and climate of this province are well adapted to the production of peas; and as soon as the mass of agriculturists are made acquainted with the best methods of cultivating the land, and the entire management of this crop, it must certainly become a great favorite, and be much more extensively cultivated than is the case at present. Without detracting from the average quantity of wheat grown in the country, as many bushels of peas might be grown for exportation as would equal the quantity of wheat exported. This desirable result may be achieved, and doubtless will be, before the lapse of five years.

One of the most difficult points in the management of the pea crop is, to cover the seed properly, which can be but imperfectly done with the ordinary seed-harrows. Where the land has been previously ploughed in the autumn, it may be well harrowed down in the spring, and then the seed may be ploughed in with a light furrow and afterwards harrowed to pulverise the soil and smoothen the surface. But a preferable and more workmanlike plan is, to plough the land neatly with a one-horse ribbing plough, and to sow the seed broadcast at the rate of three bushels per acre, and harrow the seed in the drills lengthwise. By this means they will be covered to a proper depth, and the plants will come up in rows as beautifully as if done with a drilling machine.

It is very advisable, on such soils as are apt to produce a short growth of haulm, to top-dress the pea crop as soon as the plants get a few inches above the ground, with about one bushel of plaster per acre, by which means a thick smothering crop will be secured, which will leave the land in quite as clean a state of culture as though it had undergone the process of a complete summer-fallowing.

A variety of early dwarf peas is being of late very extensively cultivated in the northern part of this District. From 50 to 60 bushels per acre have frequently been grown by the farmers in Whitchurch; and a friend of ours, the harvest before last, assured us that he had five acres of this variety which produced him the extraordinary yield of 65 bushels per acre, for which he found ready sale in the neighborhood, at one dollar per bushel. Not less than four bushels of seed per acre, will suffice, of this variety.

Remarks on Transplanting Fruit Trees.

BY S. G. PERKINS, ESQ., BOSTON, MASS.

First prepare the ground where they are to be put, so that water will not remain on or near the roots. Examine the roots of the tree before planting, and *cut out* all rotten or defective roots, and *cut in* (shorten) all that are bruised or otherwise injured, to sound wood above the wound. Be careful not to plant too deep, as this may be fatal to your tree.

If the tree does not put out shoots in the spring, at the usual time, or as soon as others do that were planted at the same time, give it one good watering at the roots, and no more while it remains in a dormant state; but if the bark remains fresh, or does not turn black, *wash the head and body* with a water pot or syringe every evening at sundown, until it begins to shoot or grow, when you may cease watering the head, and water the roots if required. I have had trees to remain until the last of July without putting out a leaf or shoot of any kind, and after that become as fine specimens as any in my garden.

No manure should be put to fruit trees, except it be a little vegetable manure, quite rotten, and that mixed with the earth that is to cover the roots. The question is frequently asked, whether it be best to plant fruit trees in spring or autumn? This, in this latitude, must depend on the *soil* into which they are to be put. If the soil be a wet, clayey one, it is best to plant in the spring; but if it be a light gravelly soil, the autumn is preferable, because you gain four or five weeks in the growth of your plant in the spring.

It water be allowed to remain about the roots of trees that are recently planted, and are not growing, it will probably rot them by becoming stagnant and putrid. Trees should be planted therefore, so that the water will run over and off the roots, which is all they require to afford them nourishment.

Watering the head and body of a tree that is ardy in putting forth its shoots, is the safest, and indeed the only sure mode of bringing them out, while a continued watering of the roots is almost sure destruction to them.

Trees planted on a south wall or fence, that do not put out shoots in due season, should be covered for several hours, when the sun is out, if the weather be warm. The leaves may be consider-

ed a sort of suction pump, which draw up the moisture from its roots and produce its increased growth; whereas a tree without leaves, and that is not already attached to the ground, has no means of carrying off the moisture from the roots. For example, if two branches of equal size and weight, the one with leaves and the other without them, are placed in vessels containing an equal quantity of water, and exposed to the sun, the one having the leaves will take up the greater part of the liquid, while the other will consume comparatively little.

Some years ago, I imported from Paris two hundred and ten Pear trees on Quince stalks, whose roots, on their arrival, I found to be entirely black and dead. I shaved off with a drawing knife all the roots down to the stump. These I planted in trenches, tying them to cross bars to keep them firm, and then filled up the trench with good soil. The heads and bodies of these trees were regularly washed in dry weather until they began to sprout, which most of them did in abundance during the summer, and I finally saved out of the whole number, one hundred and seventy four, which became as well rooted and as good trees as any in my garden.

This has happened more than once. Three or four years ago I imported among other trees, twenty Plum trees, from six to seven feet high, the heads of which had been budded the previous year in France. These buds had grown from nine to twelve inches long, and were perfectly fresh when they arrived; but the roots on examination were found entirely dead. Two of these I gave away. One was good for nothing, and the other seventeen I planted in my garden, having cut out all the roots that had fibres, they being entirely dead. One of my men said I might as well plant my walking stick. Sixteen of these are now flourishing trees, well grown and well rooted, new roots being induced by means of washing the upper part of the tree. S. G. PERKINS.

Remarks.—The foregoing will please such of our readers as like plain, sensible advice, from a thoroughly practical man. We have ourselves seen with great surprise and satisfaction the trees referred to as having been so successfully transplanted by Mr. Perkins under what were the most unfavorable circumstances. The great advantage of the mode he practices, of *watering the bark*, and not watering the roots of a tree, is

a half dormant state, our correspondent thoroughly convinced us of in his own garden. Our readers are solicited to put in practice the invaluable advice he gives them. There is no doubt that half the trees that die annually from the ignorance of transplanters, perish from a mistaken notion of deluging their roots with water daily when their fibres are so feeble as to dread it as much as a patient afflicted with hydrophobia. —*Horticulturist.*

To make Soap.

You must have an ash-tub or barrel, which should be tall and high; but is best of a funnel shape, narrowing down towards the bottom, and in the bottom should be a hole not larger in diameter than a half dollar. The ash-tub should stand on wooden legs, high enough to admit a large common tub underneath. Lay several bricks inside the bottom, round the hole, to keep up the ashes.—Then cover both bricks and hole with straw, through which the lye is to filter. Fill the barrel or ash-tub, to within five or six inches of the top, with good beech, hickory, oak, or sugar-tree ashes, (which have been kept covered from the rain,) packed down hard, and set a clean tub underneath. Pour on boiling water, until the lye begins to drip. It will be a great improvement to mix with the boiling water about two gallons of slacked lime, or one of unslacked. Continued to pour on cold water every half hour, as long as the lye continues strong.

The first lye will be very strong, but it will gradually become weaker. The proper strength for beginning the soap, is when an egg placed in the lye-tub, will continue at the top, with only about the size of a ten-cent piece appearing above the surface of the lye. If any more keeps above, the lye is too strong. If the egg sinks below the surface, the lye is too weak.

To begin the soap;—put three or four pounds of fat, or grease into a large kettle over a brisk fire, and melt it, stirring it well with a stick. When the fat has melted, pour in two or three gallons of strong lye, gradually stirring it well, (and always the one way,) till the fat and lye are thoroughly mixed. Then moderate the fire, and boil it slowly and steadily, if it boils too hard it will go over. As it boils, continue to fill up with lye till the soap becomes of a proper consistency. If in boiling the fat disappears entirely from the top, add more fat. If there should happen to be too much fat it can be skimmed off when the soap is cold. Try the soap by occasionally taking out some on a dish, and setting it in the open air. It should be of a bright brown colour, and clear and thick as a jelly when cold. After having boiled several hours, if it still remains liquid, in trying it in the plate, add a little cold water to what you are cooling, for the purpose of making it jelly. You will then be able to ascertain how much cold water must be added to that in the kettle, for the same purpose, it being evident that

the lye is too strong. It is an improvement to throw in a pound or two of rosin, while the soap is boiling, as it prevents the soap from eating the hands when washing with it.—When it becomes a thick jelly and no grease appears about it, if you wish to make hard soap, stir fine salt into it, allowing one pint of salt to three gallons of scap.—Let it boil for ten minutes after the salt is in, then try the soap by taking out a small portion and setting it to cool. If it does not seem sufficiently stiff, or likely to harden well, add more salt, and give it another boil up. Then take the soap out of the kettle and put it in tubs to cool; when it becomes quite hard cut it out and lay it on boards to cool in the shade:

In the spring is the best time to make it, the last of March or the first April, as there is very little ashes or soap grease made in summer. If you should have salt grease, put in some clear water and boil it one hour, to extract the salt —*Ohio Cult.*

Remedies for Bed-bugs and Chinces.—When bedsteads become infested, they should be taken apart, carried into the yard, and the joints and pins first washed with cold strong soapsuds, as also the sucking bottom, or cord. Before the bedstead is put together again, it should be well washed with strong vinegar, and then all the joints and pins should be gone over with a feather and spirits of turpentine. If bugs are found in crevices of the wall or wash board, their haunts should be plastered up with quick-lime mixed with water, and then white-washed.

Another remedy is to procure from a druggist an ounce of quicksilver and beat it to a froth with the whites of two eggs; or if you wish it very powerful and thick like an ointment, use the white of one egg only. If liquid, spread it with the feather of a quill all over the cracks and pins of the bedstead, (not forgetting the underside of all the joints,) and see that it penetrates thoroughly. If you have made an ointment of it, rub it in with your fingers. A most effectual remedy is to examine the bedstead every week, (Friday or Saturday,) and after brushing all the dust off, to take a sponge and wet every joint and pin with the following mixture:—Put into a quart bottle equal quantities of spirits of wine and of turpentine, adding a large table spoonful of oil of vitrol, and an ounce of powdered camphor; keep it corked tightly. If on moving into a house, it is found free from bugs, or other vermin, the utmost care should be taken to keep it so; remembering always the homely proverb, "that an ounce of preventive is worth a pound of cure."—*Brown Co., O., 1847.*

Appearance of Fall Wheat in the Home District.

We lately visited some parts of the Home District, with which we are well acquainted, and were truly sorry to find by personal observation, that the effects which we have, for sometime, anticipated would result from our very open winter, and the consequent want of snow sufficiently to cover and protect the wheat crop—have there been but too truly realized. We also learn from Farmers, that this crop, in other parts of the District, is also in a very precarious state, and have but too much reason to suppose from analogy of circumstances, that it is equally so in other Districts in the southern part of Canada West.—So far as present appearances would warrant an opinion being formed, we venture to say, that at least one-half of the plants are killed, and, as usual, the greatest damage has been done on strong, stiff-wet clays. In fact, so much apparent injury has not been done to the wheat plant, within the recollection of our oldest settlers, by a similar cause, as is the case, in the present season. Every field, without exception, has the appearance of being scorched by fire, and a superficial observer would suppose that the entire crop is destroyed. It remains yet to be seen, whether the heart of the plants have been seriously so—but the very moment this fact can be ascertained, it would be well for the farmers who have sustained loss, to adopt the most efficient means in their power to make it as light as possible. In all cases it would be well to roll the land as soon as practicable. By this means many of the plants that have been partially thrown out of the ground by the action of the alternate freezings and thawings, which have taken place at different periods from the setting in of the winter up to the present time, will be pressed into the soil, and by the genial influence of fine early spring weather, may yet rally and recover sufficient strength to make an average crop. It is, however, unwise to risk the chance of a crop in any case where the wheat grower has good reason to believe, that the plants are so thin on the ground that the crop will be endangered with rust, and moreover it very seldom happens that winter wheat, when thus so seriously damaged, produces either a large return or a good sample of grain. To make the first loss the greatest, is decidedly the best plan, and the course to be pursued to get a productive harvest, upon which we

have thrown out some hints in our present number, is to sow spring wheat on the land intended to have been occupied with the winter crop, as soon as the harrows can safely be employed.—The true and easy method to ascertain whether this advice be sound or not, is for each farmer to make an experiment, by allowing some part of the winter wheat to take its chance, and by sowing the remainder of his fall wheat land with a good variety of spring wheat. A good crop of spring wheat is better than a shrunken one of fall wheat. On strong clay soils, where the plants have been only partially destroyed, it would greatly increase the productiveness of the crop to harrow the ground lightly before rolling it. We strongly recommend this course in all cases where the surface soil has become so strongly incrustated, as to prevent the plants from taking an early start in the spring.

At periods like the present, every precautionary means should be employed to prevent disease in the wheat crop; and also, to increase the productiveness of the land to the greatest possible degree. As a means, therefore, of testing what could be done in this particular, we would suggest that each farmer who apprehends a short crop in the coming harvest, should sow broad cast upon his wheat about five bushels of salt per acre. Let each farmer try a portion of his crop with the above application, and although the experiment be ever so trifling, it will convince the most skeptical that by proper artificial means, the average yield of grain may be very considerably increased, without adding much to the cost of production. As many may be induced to make experiments with a view of increasing the yield of the wheat crop, owing to the very high prices of bread stuffs, for the information of such, we would mention what we know from practical experience to be of use, in forcing forward wheat and other grain crops to early maturity. Nitre or saltpetre sown broad cast, at the rate of twenty ounces per square rod; soot at the rate of five bushels per acre; and house ashes at the rate of six bushels per acre, have each of them been found to act like a charm in recruiting sickly looking wheat, when applied early in the season, and harrowed in with a very light pair of harrows.

British Farmers, who possess the opportunity of trying these top dressings in a greater degree than we do, have found much benefit from their application, and have in many cases laid the re-

sults before the public—and we say to Canadian Farmers who do attempt them, in however trifling a degree—what prevents you also keeping a correct account of the effects of harrowing and rolling, or of each alone—and of the application of salt, nitre, soot, ashes, or any other stimulant which may occur to yourselves, and of sending us the results of your experience for the benefit of others?

Annual Reports of the Royal and Eastern Agricultural Societies of Prince Edward Island.—These reports have been read with interest. Allusion has been made to the growing of Indian corn on the Island. If this valuable grain has become thoroughly acclimated to the climate of Prince Edward Island, it would doubtless be of great advantage to many of the Western Canadian farmers to procure a supply of seed from that quarter. If these remarks should catch the eye of any of the officers or members of either of the above-mentioned societies, they will oblige the conductor of the *Cultivator* by sending him a barrel of seed-corn, with the cob, in time for spring planting. The favor will be reciprocated in a similar manner, or bound volumes of the *Cultivator*, or money will be sent in payment therefor.

We are highly gratified to hear that the *British American Cultivator* has become a favourite household companion among so large and respectable portion of the “Island Farmers.” Although it is not written and compiled for so northerly a region as Prince Edward Island, still it contains much information that can be turned to a practical account by the farmers of any portion of the world.

The toasts drank at the dinner were of a highly useful and interesting nature to farmers. We have not space at our command to mention the whole, nor to give a lengthy notice of these societies, but we might with some propriety be charged with an act of uncourtesy were we not to make mention of the 5th and 6th given below, and we therefore accompany them with others that were drank on the occasion referred to. This society appears to have arrived at the conclu-

sion, “That had one-third of the amount of the public debt been expended in the advancement of the culture of the soil, there would have been no debt at all at this period.” Upon a close investigation of this matter, this opinion will be found correct; and we would recommend our legislators to examine this question narrowly before they plunge the country farther in debt for public improvements.

2. The Royal Agricultural Society, of Prince Edward Island. May it receive support from every branch of the community, and establish a Farm School, and Pattern Farm.

3. The House of Assembly. The safe guard of our liberties. May they demonstrate their belief, that revenue judiciously and guardedly applied to propel agriculture, would yield the largest return of general prosperity.

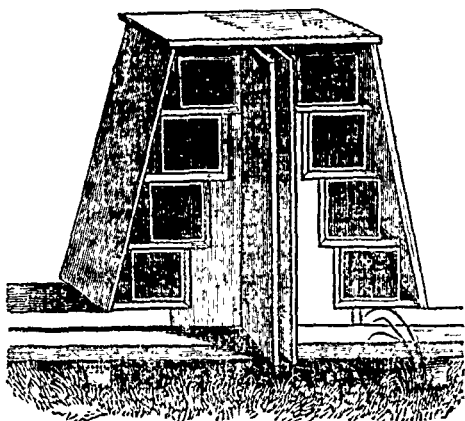
4. The Central Academy. May it qualify District Teachers, to impart to the sons of the soil, the principles of agricultural chemistry—comprehending, analysis of soils, and their productions, the properties and various adaptation of manures and fertilizers.

5. The Provincial Agricultural Association of Upper Canada. May its splendid commencement lead to a full development of the ample resources naturally possessed by that noble section of the Empire, and insure the perfection of its agriculture.

6. The Agricultural Press. May every Island farmer grow three or four extra bushels of oats, that he may possess himself of the *British American Cultivator*.

AGRICULTURAL GARDEN FLOWER SEEDS.—We beg to acquaint our friends, that we are prepared to execute orders for the improved varieties of grain and seeds, and if they are sent us at an early date, we shall be most happy to supply any demands of this kind in our power, that may be entrusted in our hands.

A full supply of last year's growth of Garden and Flower Seeds of Canadian, New York, and English produce, and also a quantity of Vetches, Rape, Sugar-beet—Mangold Wurtzel, and field Carrot Seed on sale at the Provincial Agricultural Warehouse, all of which can be confidently recommended to the favorable attention of the public.



Colton's Bee-Hive.

This hive took the first premium at the Meeting of the N. Y. State Ag. So., at Auburn, last fall. The Committee thought that it combined more advantages than any other with which they were acquainted. We have never seen this hive in operation, but from a long acquaintance with the habits and economy of honey bees, we think this affords many and important advantages.

The pyramic form affords the convenience of a moderate width for the bees when they commence work, and a larger space as they proceed and increase in numbers. In building the comb under the drawers, they will naturally extend it up into the drawers, and when a full drawer is removed, and an empty one substituted, in mending up the broken comb in the passage into the drawers, it will be natural for the bees to extend their operations into the drawers. This construction of lateral drawers affords a very convenient passage for the bees to the drawers, without travelling far. The hive is very simple and convenient in its construction and management, and it may be used as a swarming, or non-swarming hive.

The above cut represents particularly the back side of the hive, with a less prominent view of the left side and top. The doors which close the at back side, and which are hung at the centre, are now open, and swung a little to the right. They are represented as coming down to the bottom board, which is an error of the delineator, as they only come down as low as the sides, or the wings under the lower drawers.

A cheaper construction, and one that will answer all common purposes, may be made by omitting the upper story, having three drawers on each side, which are sufficient.—*Bos. Cult.*

To cure Warts or Corns.—Messrs, Editors:—Take the yolk of an egg, thicken it with fine salt, which apply as a poultice at night, leaving it off in the morning. Thus continue for two or three nights, until the part affected bears a whitish appearance; then leave it off entirely, and the wart or corn, if it is solid, will come out, *root and branch*. If a little of the leaves of rue is bruised and added, it is said to be the better. Although I heard a practical physician say not long since, who was complaining bitterly of the corns on his toes, on being asked why he did not cure them, that it was a matter of impossibility, without dissecting the toe. The corn, said he, originated in the joint, and there is no other way of coming at it but by dissection. Now my corns always appear to originate at the surface, and if suffered to remain, appear to proceed to the joint. I have cured some very obstinate ones by the above process. Therefore I would say to your readers who have corns which did not originate in the joint, to try it, and I presume it will cure them; and if in the course of two or three years they appear again, try it over; or even admitting the corn to originate in the joint, try it, it will cost but little.

A SUBSCRIBER.

Lee co Iowa, February, 1847.

—*Pra. Far.*

Export of Breadstuffs.—More than 4,000,000 bushels of grain were exported from New York City last year to foreign countries, besides 1,193,428 barrels of flour, equal to 5,000,000 bushels more, making a total of *nine millions bushels*, or its equivalent, from a single port. It is at the rate of 25,000 bushels in a day, the year round. It is more than half a bushel to every white man, woman and child in the nation.

To the Editor of the B. A. Cultivator.

DEAR SIR,—

It is a source of regret to many of Canada's best friends, that her population is in almost every respect inferior to her more enterprising neighbours. There are doubtless many causes to which this inferiority may be attributed, but I think the most prominent one, and the one to which our attention should most especially be directed, is the lack of that general information which so eminently characterizes the citizens of the United States.

Why is this? and how shall it be remedied? are questions which I will endeavour to answer in this communication. It is an axiom (so common-place that I need scarcely repeat it) that ignorance proceeds either from want of ability, opportunity, or desire to learn. Canadian ignorance (I can use no more mollified term) evidently springs from both these latter causes, and it is part of my present object to bring before the public the means of placing the opportunity within the reach of every Canadian. I am not about to enter into a long disquisition on the policy of any party; I merely wish to direct public attention to one important object, viz: the immediate repeal of the British Copyright Act, inasmuch as it relates to her colonies. A repeal of this act, and an extended education of all classes, coupled with the united exertions of the Agricultural Associations of the Province, would effect a complete revolution in the information of the people in an incredibly short space of time; but in this letter I shall consider only the abolition of the act in question.

In contrasting the superior intelligence of our American neighbors with our own want of it, we cannot fail to observe the great disparity of means of obtaining knowledge possessed by each—they had a cheap and consequently widely diffused literature—we have scarcely any literature at all, or, at the best, a dear one, with but a comparatively small circulation—they have a free press, unshackled by any paltry Copyright Act—we have an authors' protective duty, which is really but a slight protection after all, and proves in too many instances prohibitory. Is it right, that we who have to enter into close competition with the people of the United States, who have to array arm against arm in the field of labour, and intellect against intellect in the production of our

staple commodities, should be refused the opportunity of learning to direct that arm most profitably, and of stimulating and adding to the power of the intellect. None can say that such a state of things should continue; not even those authors who is supposed to reap most benefit from this embargo on intellectual improvement, this tax upon the use of brains. And if there are any such, who would urge protection in Canada, or men who have spent a life in writing for public good in England, let a knowledge of the fact that the reading of copyright works in this country does not affect the income of the author one per cent, serve to convince them, that inasmuch as the Provinces are concerned, this protection is useless and injurious. Nay, this fact itself, is sufficient argument for the immediate repeal of so much of the act as affects the colonies.

Why should the farmer or merchant of Canada be debarred from the source of relaxation and improvement enjoyed by the American citizen? Why should the young men of this noble country be denied a perusal of those works, and an acquaintance with that general literature, which alone can render them sufficiently intelligent to appreciate the immense means of production which Nature has so bounteously placed at their command? Why should such things be, I ask again?

Colonel Peronet Thompson truly said, that "All protection means robbing somebody else;" but in protecting an English author in Canada, we commit a robbery whose limits are unknown, for we rob a nation of its due exercise of intellect, and take from it its chief source of wealth.

With a liberal government, and one too professing such regards for the interests of Canada, we could not have a more favorable opportunity for agitating this question, and with all due deference I would submit it to the consideration of the board of Agriculture, trusting that they will bring it before the public in some tangible shape.

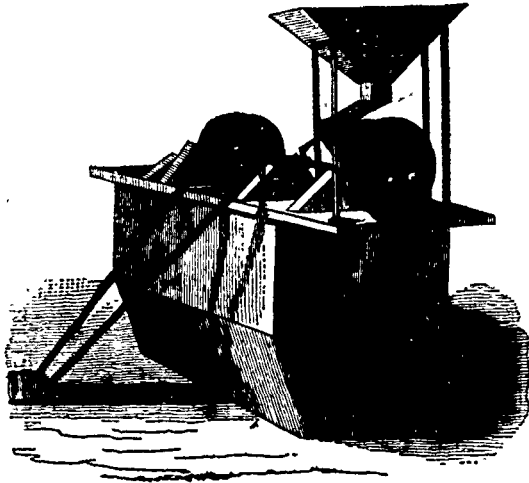
I remain, yours, &c.,

G. CLARKE.

Lindum Cottage, Canboro',
March, 1847.

Warts on the udder and teats of cows may be easily removed simply by washing them in a solution of alum and water. We have known this application to result favourable even after all other perscriptions had failed, and the disease seemed to have advanced beyond the possibility of cure. Try it.—*Bangor Mercury*.

FITZGERALD'S PORTABLE TWO HORSE POWER FLOURING MILL.



When at Auburn last autumn, we saw in operation one of FitzGerald's portable mills, and were so much pleased with its performance that we resolved when opportunity presented, to introduce them to the notice of the Canadian Farmers. They will grind and bolt in a perfect manner from four to five bushels of wheat per hour, and are not more liable than other machinery driven by horse power to get out of repair. These mills of which the accompanied drawing is a correct representation, cost about twenty pound each, and may be driven by horse or water power. The stones are made of the best quality of French Burr—are readily sharpened and adjusted, and the whole machine is extremely simple and at the same time efficient. If any party desire a machine of this kind, we hold ourselves in readiness to execute all such orders upon the shortest notice.

CULTIVATION OF LAND FOR BARLEY.—The best preparative crop for barley is winter wheat, provided that the land is in a tolerably clean state of cultivation. The more frequently the land is ploughed, the more productive will the produce of barley be. An old tenant farmer of ours was in the habit of ploughing his winter wheat stubbles very early in autumn, and the following spring he would plough twice and harrow and roll a sufficient number of times to pulverise the

soil, and make it perfectly friable for the seed. He has been frequently heard to say, that every extra ploughing he gave his barley land, added at least ten bushels to the product of his crop. He seldom grew less than a thousand bushels of barley per annum, and his average yield equalled at least forty bushels per acre. This fact is mentioned with a view, if possible, of convincing the barley grower that he had much better prepare a few acres well for this crop, rather than slovenly cultivate a great number of acres. If the land be manured for barley, previously to its being applied to the soil it should be well fermented, but in most cases it is a very questionable practice to manure for this crop, and it would be much preferable to have the crop that preceded it well manured. The most productive crop of barley ever grown in Canada, of which we have any knowledge, was sown after a crop of potatoes, which was manured at the rate of forty tons of barn yard manure per acre. The manure was laid on the ground for the potato so thick, that it was with great difficulty that it could be ploughed. This crop of barley yielded seventy-two bushels per acre, each bushel weighing 49 lbs.

The six rowed variety, is, when all things are considered, the best adapted to the country, and should be sown just as the native plum blossoms make their appearance, at the rate of two and a half bushels per acre. Clover seed may be sown with barley, with nearly a certainty of success.

Reaping Machines.

Much inquiry has been made of late, as to the progress we are making in manufacturing Reaping Machines for the Canadian market. For general information, we would state, that a very ingenious person in this city has been engaged for the past six months in bringing to perfection an article, which combines all the advantages of McCormack's machine, together with a great many improvements thereon, which we shall fully describe in a future number. Meantime we may say, that it possesses increased strength, is easier wrought, the amount of friction being reduced, &c., and that each machine is warranted to reap, in a proper manner, with the power of two horses, and the aid of a man and a boy, from ten to fifteen acres of heavy wheat in a day of ten hours. The machines are built for service, and consequently the very best materials are employed in their construction, and in all cases they will be warranted to the purchaser. As they are a very expensive article to manufacture, we shall only build to order, and therefore advise all who are desirous of purchasing during the present season, to send forward their orders as soon as possible, as only a limited stock of suitable material has been purchased; and as we have good reason to confidently anticipate that a very considerable number will be required, no delay should be made in giving us the necessary instructions, so as to allow every justice to be done to the orders received. We were instrumental in importing, last season, four reaping machines from New York State, each of which cost at the factory £26 5s., and duties and other charges brought the price up to £31 5s. The machines we are having manufactured, are better than the imported machines, in every particular, yet we are determined to sell them for the very lowest price at which they can possibly be afforded, viz: £20 each,—payment being in all cases required on delivery at our warehouse. A machine such as we are manufacturing, with proper usage, will last from ten to fifteen years, and will, unless the quantity of grain sown be very great, be capable of cutting the grain of two or three farmers, so that it would be wisdom for neighbors to join together in purchasing one of them, by which means the expense will be trifling in comparison to the benefits that could be derived from their use.

In one establishment in New York State 500 of McCormack's machines are in process of being

manufactured; and the same firm built, last season, 200, all of which found a ready sale at the factory, at £26 5s. each. The price asked this year is £25, and we are informed by one of the proprietors, that the demand for them is likely to be so great that it will be with great difficulty that it can be supplied.

We have no scruple in saying that the machines we are getting built, are not only a great improvement upon any yet introduced, but that the price at which they are offered is very considerably less, which is a most material point for the consideration of intending purchasers.

Sowing Clover Seed.

One great cause of the frequent failure of the clover plant in Canada, is the very late period in which the seeds are sown, and the light covering that is given them by the roller or other implement used for this purpose. It is advisable to sow as early as possible, and in all cases where the system is practicable, the seed should be harrowed once with a pair of light harrows. This practice is of much greater importance than might appear to some at first sight, and might be adopted with great advantage when the seeds are sown with the winter wheat, provided that the very earliest period suitable for harrowing the land be chosen to carry on the operation, and also a very light pair of seed-harrows be employed.

The system usually practiced in this country is, to sow the seed without giving it any covering of soil, and the obvious result of such a practice, in dry summers, is the total destruction of the young and tender clover plants in the months of July and August, by the parching influence of the sun. The best preventive of this evil is early sowing, covering the seed lightly by means of a pair of harrows or a bush harrow, and an application of a top dressing of some stimulating manure, by which the clover plants will get a firm hold, and a luxuriant growth before the season of drought and hot suns set in.

A great diversity of opinion exists on the proper quantity of seed that should be sown per acre. In a majority of cases, by far too little seed is sown. On the average quality of soils we sow eight pounds of clover, mixed with three quarts of timothy seed, which is not too much, and a less quantity will not suffice to secure a thick growth of plants.

On the Organic Matters in Soils.

We have previously dwelt upon the origin of organic matter in soils, and the names by which chemists distinguish it. We now inquire into the mode of its action in the soil, and how it becomes beneficial to the plants.

1. Organic matter exists in soils in various states or conditions; and in all these conditions exerts different influences. For instance, by newly deposited and undecomposed matter, such as the stems, roots, and leaves of plants, in a green state, no service is given to the plants, or to the soil except there be a certain degree of moisture and heat to cause a putrefactive fermentation to commence, during which, the putrefying substances emit carbonic acid and mostly ammoniacal gases, which are made useful to plants in the manner hereafter detailed.

Dry and undecomposed vegetable matter, such as dry straw, dry roots, or branches, are useless to a soil while they remain dry. The decay of dry substances is so exceedingly slow, that they yield no nourishment to surrounding plants. This is familiarly exemplified by noticing a dry dung-hill, the long straw of which for months will remain undecomposed, if kept dry, while it will rot in a month if kept wet.

Decaying and decayed vegetable and animal substances are those which most fertilize soils—the presence of which is the most inducive of vigorous and luxuriant growth in plants, and the absence of which is the most prejudicial to the interest of the farmer.

The action of water and air on vegetable and animal remains, causes them gradually to decompose. They do not cease to exist, but merely change the form of their existence by this decomposition. They dissolve into their original elements, to be reformed in the growing plants. This decomposition, or decay, is effected either by fermentation or putrefaction, or both. The same process which deprives the prying matter of shape and form, and substance, furnished the materials of life and support to the new races of vegetable life which spring up from its midst.

Let us trace this process in the case of green and of decayed vegetable substances.

If you put into the soil a portion of green vegetable matter, newly cut down, and keep it moist, at a temperature of thirty or sixty degrees Fahrenheit, and upwards, it will commence fermenting, and will presently putrefy. During putrefaction,

various gases will be emitted, consisting chiefly of carbonic acid gas, some ammoniacal gas, and occasionally carburetted or phosphuretted hydrogen gas. By and by, the substance of the green vegetable mass will grow less and less, and it will finally disappear altogether, except the small portion of earthy, insoluble matter which all plants possess.

Where has it gone? Putrefaction has removed its substances as effectually as combustion could have done. It has putrefied away, and only left the same amount of earthy matters which ashes would have contained if it had burned away. But where has it gone? It has been resolved into its original elements, and it exists in some new vegetable form; or it impregnates the surrounding air. I have shown that organic matter is composed of carbon, oxygen, hydrogen and nitrogen—of which all vegetation is formed. This green matter, by putrefaction and decay, has melted again into carbon, oxygen, hydrogen and nitrogen, and exists in a state of carbonic acid gas, (or carbon and oxygen united,) and of water, (or oxygen and hydrogen united.) The nitrogen, by the putrefactive process, is converted into ammonia.

This green vegetation is thus, we perceive, converted into gaseous products, and water; further on in this chapter, we shall see how these are made use of by plants.

Take for further illustration that state of organic matter in which it has decayed away in, and become incorporated with, the soil. Before it could have reached this state, it must have undergone the process of fermentation. During this process, various acids are formed, called, as we saw in the former number of this chapter, the humic, almic, crenic, &c., acids. Now, wherever these acids find the alkalis, such as potash or soda, or the alkaline earths, such as lime, or magnesia, in the soil, they instantly combine with them chemically, and form a new set of substances, called salts, (about which our next chapter must be.) These new combinations are soluble in water, and hence melt in the water of the rains, and in the moisture of the earth, and in this state exist fit for the food of plants.

In all conditions of organic matter, whether decaying or decayed, some portions are soluble in water, and without further decomposition, are presented in this state of solution for plants to absorb by their roots. Thus we perceive, in the

cases we have instanced, that the organic matters—

1st. While putrefying and decaying away emit carbonic acid gas, ammoniacal gas, and other gases for the use of plants.

2d. That while fermenting and putrefying, certain acids are formed, which combine chemically with potash, soda, lime, magnesia, &c., and from salts, which are soluble in water, and fit for use of plants; and

3d. That in every condition, organic matters furnish a small amount of soluble substances *undecomposed*, which in solution are absorbed by plants.

Touching the second and third modes now instanced, the mind has no difficulty in comprehending how organic substances melted in water, and thus carried by the rain and moisture in solution to the roots of plants are sucked up by them. Suppose you had a handful of salt, and a sponge, into which you wished to put that salt, by melting the salt in water and applying the sponge to the water—the whole would be imbibed. So with plants; their roots, sponge-like and fibrous, spread themselves abroad, feeling for and absorbing moisture, and with the moisture such matters as may be dissolved in that moisture.

Many philosophers have doubted whether plants do *thus* absorb organic vegetable matters. They have supposed that they absorbed them entirely in a gaseous form, as mentioned subsequently. But very clear proof has been furnished that plants do absorb and convert into their substances *undecomposed* matters, where such matters are soluble. For instance, if you make plants grow in an infusion of red madder, the fibres, and partially the stems, will become *red*.

Biot found the flower of the white hyacinth become *red* in a few hours, by sprinkling the earth with the juice of the *Phytolaca decandra*.

In weak solutions of gum, jelly, and extract of bark, Sir H. Davy found plants to grow much ever than in pure water; plants watered with lim water, starch water, or sugar water, presented a strikingly superior growth, in comparison with those watered with pure water alone. These experiments, which have been an hundred times repeated by others, prove that plants by their roots do absorb organic vegetable matters, when presented to their roots dissolved in water.

But it is chiefly by its *gases of putrefaction and fermentation that these organic matters become useful as food to plants*. We have noticed above that vegetable and animal substances during their decay emit various gases, the chief of which are carbonic acid gas, and ammoniacal gas. As these gases escape in the soil, *they are absorbed into plants by the roots*. If they are given off faster than the roots of plants can absorb them, these gases impregnate the soil, and are there retained until the plants can take them up. Or they fix themselves in the watery moisture of the soil, which is capable of absorbing immense quantities of them, and in this state of solution are sucked up into plants. If, however, through great warmth and moisture, the putrefactive process should be hurried rapidly on, then the gases escape from the soil, and float in the air. Hence, in warm countries and by marshy places, there is so much disease. The hot, moist climate acts on the abundance of decaying vegetation that in its rapid putrefaction gives out these gases, which are poisonous to animal life, and quickly destroys that life when inhaled by it.

Plants, however, by their *leaves absorb these gases as they float in the air*. They absorb carbonic acid gas, for instance, which is composed of carbone [73 parts] and oxygen 27 parts; they appropriate the *carbon* which forms the substance of their *wood*, and they give back to the atmosphere the pure life-inspiring oxygen. Hence the benefit of the neighborhood of living vegetation—of trees and plants—to health; for in the warm moist season, when the gases of putrefying vegetable matters would poison the air we breathe, these kindly preservers throw abroad their absorbing foliage and suck in the noxious gases on which they feed, and thus filter, purify and regenerate the air for man.

Hence also we see the beautiful arrangements of Providence when the hot sun causes the moisture to exhale from the subsoil, and rapidly to decompose the vegetable matters in the soil, causing them to emit their noxious gases, in vast volumes into the air—*then he gives plants and trees their exuberant covering of sponge-like leaves to absorb these gases and purify the air*. While in winter, when the cold has arrested the process of putrefaction and congealed the moisture which has hastened its decay, there are no leaves, and no foliage to the vegetable world, because their functions are not required either to support themselves or purify the air for man.

That plants do thus absorb the gases from the atmosphere and convert them into substance, we partly demonstrated in the last two parts of this chapter, but it may be further proved by many beautiful experiments. If you make an *air tight* cases of glass, and put a lamp inside it, the oil and the cotton of the lamp, by combustions will begin to disappear. They have partly *burned away* you say—that is, what has burned away has changed its form, and is in the air; the carbon of the oil and the wick, combining with the oxygen of the air, has produced *carbonic acid gas*, which floats in the glass case.

If instead of a lamp, you put *rotting vegetable or animal matter*, the result would be the same—carbonic acid gas would be formed; the substance of the lamp, or the organic matters would decrease, and the substance of the carbonic acid gas would increase.

A lighted flame cannot burn—nor can animal life exist in this carbonic acid gas, thus confined—consequently the lamp in our case will grow dimmer and duller, and will presently go out—or a living bird introduced, will droop, languish, and die off suffocation.

But introduce into this case, with the lighted lamp, or the bird, a *living plant*, and behold the change! In a little time, the lamp will recover its brightness, and the bird its life and vivacity. Why? Because the plant absorbs the carbonic acid, and other gases, which choked them, and gives back the oxygen of the air, pure and free, for their subsistence. If you supply the lamp with oil, so that it can continue burning, and keep the plant growing in the case, the light will continue to burn brilliantly, and the plant will maintain a flourishing growth. *The oil of the lamp feeds the plant, and forms part of its substance.* The oil by combustion is converted into carbonic acid gas, and the plant, by absorption, sucks in this gas; retains its carbon and gives back the oxygen, purified, to the air. Exactly the same process, would go on if a mass of decaying vegetable matter were substituted of the lamp.

If you take a bottle and fill it with manure and decomposing vegetable and animal matters, and then place over the bottle a flower-pot containing a living plant, so that the mouth of the bottle will exactly fit into the hole at the bottom of the flower pot, you will see that plant in a few days flourish wonderfully in comparison with other

plants not similarly favored. Of course there must be heat and moisture enough to make the matters in the bottle putrify and emit their gases. The plant will assume a more vigorous appearance; its wood will increase; its leaves thicken and deepen in color, and its whole appearance present evidences of abundant food and sustenance. The putrifying matters in the bottle will daily decrease in weight—the plant will have vanished in a gaseous form; and in a solid and lovely resuscitation will appear in the fragrant plant.

Sir H. Davy introduced the neck of a retort which he had filled with moist manure under some grass roots in a garden. In a week or two these grasses grew prodigiously.

The time devoted to this portion of our study has however, been exceeded. I must, therefore defer the further consideration of this most interesting and wonderful of the processes of nature to further articles, and I particularly request you to connect the subject of this chapter with the future ones upon "THE GROWTH OF PLANTS," and upon "MANURING," which will contain further illustration of the action of organic matters in the soil and upon plants.

I cannot, however, close this subject without noticing one fact, which might otherwise puzzle you. It is this; *There are many soils which upon analysis, will show great abundance of organic matters, which are nevertheless barren, very unfruitful.*

This occurs in cases, 1st, where the matters are undecomposed and surrounded with stagnant water which becomes impregnated with metallic substances, or with the tannic and astringent principles of the bark and leaves of plants, and which actually preserves them undecomposed and uncaying—as in peat, mosses, moors, &c. The remedy for this is found in *drawing off superfluous moisture*, in paring and burning the turf of the soil, and in plowing in the whole with lime.

2d. It sometimes occurs on a dry black vegetable mould like a newly broken Western farm, that a great disposition to barrenness appears. The puzzled farmer sees his poor crops, and though he knows he must have abundance of organic matter unexhausted in his new soil, he cannot make it produce. The cause is, a deficiency of potash and soda and lime, and a superabundance of decaying vegetable matter. We have said in a former paragraph in this chapter that organic matter

in decay, forms various acid substances, which combine with alkalis and forms salts; but when more acids are formed than there is potash, soda or lime to combine with, they remain free of uncombined, and in process of time accumulate in such excess as actually to poison plants, or at all events to retard their growth. I am satisfied this is the case with vast quantities of soil in the United States. The owners feel convinced it must be good, fresh and unexhausted, and wonder at its small product. Its acids have accumulated to excess; it is sour. The remedy is simple; and any alkali, such as potash or soda, (wood ashes are excellent) or better still, or lime, and the superabundant acids will instantly combine with the added alkalis or lime, making soluble salts, which are immediate food for plants, and thus will be removed the poisonous excess of acids.—*Sat. Courier.*

Houses of Gravel and Lime.

BY J. GOODRICH.

Messrs. Editors: I am not accustomed to writing for the press, but noticing several invitations in the Farmer for some one to give a description of cement houses which are constructed here, and as I was the first to make the experiment in this section—and for what I know the inventor—I will give you my reasons for adopting it in preference to any other mode of building.

1st. Because it can be built in this section of the country cheaper than any other mode, the wall costing only about 5 cents per cubic foot.

2d. The material is abundant in this section, and other materials such as timber, scarce.

3d. Because it is durable and comfortable, not subject to fire nor decay.

Now let me say that lime in the state of nature is composed in part of carbonic acid gas—say 33 parts in 100. This gas is separated by burning the stone in a lime kiln. After the separation which has been caused by heat, the lime will absorb water, and slack; this is called quicklime, which is so commonly used in making mortar, throughout the country. This quicklime has a strong affinity for the aforesaid carbonic acid gas, and the atmosphere, the lime will eventually absorb and consequently become stone again; hence the reason why lime mortar becomes so hard in the process of time.

Next let us look at gravel, which is nothing

more nor less than pulverized rock. Now put that and that together—lime and pulverized rock—and let lime become rock by the addition of carbonic acid gas, which it absorbs from the atmosphere, and all is rock. This process of hardening, however, is slow; and walls when first put up are brittle and easily broken. They should be put up in the warm season of the year, in time to become quite dry before frost comes, which will both prevent the drying and the absorbing of the gas.

Now as to the process: In the first place good fresh lime in the stone is decidedly the best; and clean coarse gravel, even cobble stones, if there is lime gravel enough to fill up between, and clean water. One bushel of stone lime to twelve bushels of the gravel, and water enough to make a mortar, mixed and put into a curb made of plank held together by clamps, making the wall any desirable thickness. It should also be mixed in the curb with the trowel, so as to fill all the corners and leave no vacuum.

The wall can be raised about 10 or 12 inches per day in good weather, according to the width of the plank. After standing 24 hours, it will in good weather do to remove the curb and put on another layer, and so on.

Stone is preferred for a foundation, such as is used for brick buildings, and it ought to be put down below the frost.

The window and door frames are made of plank and set in the wall inside the curb. The wall will hold plaster on either the outside or inside, so that they can be finished to suit the taste of any one.

This wall becomes so hard in a few months that it will allow the pebbles of gravel to be broken with a hammer, without loosening them from their bed. In fact the whole becomes, in process of time, a complete conglomerate rock of any size you wish to have it by moulding it so when first put up.

Almost all kinds of buildings, and even fences can be built of this material. Fence can be made much cheaper, as it is handy on the ground for the operators. Lime can be had here for 12½ cents per bushel, and any man who is willing and able to work, and has common sense, can do the work, with but very few tools.

Milton, Rock co. Wis. Jan. 1847.

—*Pra. Far.*

MR. EDITOR,—Having had my attention drawn to an article in your Paper, headed "Education of Farmers' Daughters," I have taken the liberty of forwarding a few thoughts upon the subject, with a request, that if deemed worthy, they may be inserted in your columns. The writer of that article while lamenting the want of proper education for the daughters of the age, refers more particularly to those of Farmers. He says, "We would have farmers and farmers' wives feel that their daughters must be educated, thoroughly educated. Women should occupy a more respectable station in life than that of a mere household drudge, or 'pretty trifler.' But until this idea of finishing is given up, the useful and ornamental cannot be made to harmonize sufficiently. Our Agricultural men are becoming men of science; and shall their wives and daughters be behind them in the attainment of a permanent and useful education? While the son of the Agriculturist is climbing the rugged hills of science, shall his daughter be carried down the "giddy whirlpool of fashion?" The response of my heart is *no!* But while agreeing with her that evil exists in the present system of training girls, I cannot coincide with her views of a remedy. That a fashionable boarding school education spoils girls for future usefulness, by rendering them vain of showy accomplishments, and disdainful of the petty or laborious cares of a household, is as palpably true as that no education leaves them mere drudges.

To avoid these extremes, Mary recommends that girls attend common schools from the age of six to ten, and from that time, instead of being sent to boarding schools, that their education be completed at home, by the mother herself or under her superintendence, by means of a private teacher; supposing that in this manner they would acquire solid, useful knowledge, without becoming forgetful of, or disgusted with active family duties. Her end is certainly desirable; but the order of her means seems to me inverted. Many pernicious effects result from sending little girls to common schools; for let the teacher be however vigilant and anxious, amid the mass committed to his charge, there will be rough vulgarity, profanity and moral pollution enough to taint the young mind, and leave upon it impressions never to be effaced; and this too in that most important period of life, when the affections are being formed and the heart taking its stamps. Ah! is not this a period peculiarly

requiring a mother's watchfulness,—this the time for her training hand? and many a mother could teach her daughter the first rudiments, who is not competent to complete an education. But, besides the moral injury sustained, the time thus spent is usually thrown away; for after having run over all the common branches of an English education, they get a smattering of each without really understanding any, while the fond parents imagine their daughters to have all the solid education necessary, and only require a final polish. In this state of tainted or corrupted moral feeling and conceited ignorance, a girl is sent to a fashionable boarding school, where she learns to play, sing, dance, assume coquettish airs, despise all real worth, and all useful employment; then returning home a finished puff of vanity, causes her parents to regret having bestowed upon her an education. Now if parents would consider the right import and value of education, they would not pursue such an erroneous course. Would it not be much better for a mother to keep her little daughter under her own immediate care in tender youth, than to send her to a common school, and instead of urging her to rapid progress in several sciences, to confine her attention to spelling, reading, writing, and perhaps Geography, until she is of sufficient age to grasp and comprehend the higher branches? We would not then so often find "accomplished ladies," unable to spell their own language correctly or read it intelligibly, and we would much rather undertake the education of a young lady of fourteen, with this foundation only, than that of one who has in her memory a confused mass of Grammar, Arithmetic, &c., &c. I am aware that many mothers will urge "We have not time thus to train our infant daughters, it would require a great deal of vigilant attention, and we have to care for their temporal interests, to provide for their future prospects." True, it is your duty "to do the one, yet leave not the other undone." To what purpose do you toil and amass wealth for your children, if they are growing up in such a manner as will unfit them for a rational enjoyment, and what price shall be back lost principles of virtue and truth? But return—when arrived at a proper age for mental cultivation, let a young lady be placed in a good boarding school; not with a view to finish; attain "showy accomplishments;" but for the purpose of obtaining a substantial education; one which shall transform her into a learn-

pedant, but one which shall enable her to unite knowledge with practice, zeal with understanding. That a good school is preferable to instruction by a private teacher, appears from many considerations. In the first place, where an Institution is founded upon right principles, and conducted by those who, acting from motives of benevolence, have devoted themselves to the business, engaging their whole time and talents in devising and practising the best methods of imparting instruction, and who employ a separate teacher in each department, giving all her attention to those branches over which she presides; I say in such a school, is it not reasonable to suppose that a pupil will make not only more thorough and rapid advancement in literature, but also, that moral influences will be brought to bear upon her mind, which one teacher, however great his or her qualifications, amid the dividing and distracting bustle of home, could never accomplish? And as to the injurious effects of such a school upon domestic tastes or habits, I think the fear is groundless. It is not such education which causes farmers' daughters to forget household cares,—it is this *finishing*—this *varnish of fashionable foolery*, commonly denominated “boarding school education,” which does the mischief. On the contrary, one of the greatest recommendations of the system here advocated is, the high and enlightened tone given to practical virtues; the warmth and benevolence of social feelings, imparted by kindly intercourse with the community, contrasted with the narrow views and selfish or contracted affections of those who have been educated alone, in their own chimney corner, where too often they gather a mould of prejudice and suspicion which, adhering to them through life, prevents their participating in the sympathies of others. In conclusion, permit me to refer to the circular of this School, for a concise and comprehensive view of what should constitute female education; and this I may do without egotism or vanity, as although deeply interested in the Institution, I can claim no merit whatever for any of the excellent principles or plans upon which it is founded and operates. As the synopsis is too long for insertion here, and is moreover plentifully distributed over the country, I will only add its summary. “In order to be symmetrical and fully to answer its end, Female Education should be Moral, Religious, Intellectual, Social and Practical.”

FLORA, A YOUNG WRITER.

Burlington Ladies' Academy,
March 19th 1847.

Disease in Hogs.

Editor of the *Cultivator*, Sir. In your paper of Jan. 1st, 1846, a correspondent wishes to know the cause and probable cure of a disease known as the “thumps or heaves in pigs”—and no reply having appeared since, the following may be deemed of some value:

A friend of mine who has lost many valuable stock hogs lately, had exhausted all his remedies without avail, respectfully inquired of me whether I knew any thing of the diseases prevalent amongst the swinish class of mammalia? I replied in the negative. He then told me that if it were possible to discover a remedy it would render incalculable benefit to the community of this western country who are so extensively engaged in breeding hogs—to be brief, he had lost a pig the night before. I consented to go with him and make a *post mortem* examination, the result of which is as follows: The liver was in an intense state of sanguineous congestion or engorgement; the duodenum, or upper portion of the intestines, highly inflamed, and likewise a considerable patch of the stomach; but it was in the *lungs* that the disease manifested itself most distinctly; for these were in a state of suppuration and gangrene, or what is commonly called mortification—giving way on the least handling.

My belief is that the immediate and exciting cause may be a sudden transition from a warm to a cold medium by atmospheric changes, or removal from comfortable beds of straw to some more exposed situations—producing what medical men term *Pneumonia*. This, therefore, requires prompt and energetic measures, which I am afraid the bristly race will never get to lengthen their days till the butcher's mallet and knife seals their doom. Yet I would suggest to your numerous subscribers (if it is worth communicating) the following treatment: First, that when one of the family has the “thumps;” (or to be more methodical, when there is a great vascular excitement, producing inordinate action of the heart) to bleed as largely as possible—from *what part I can't tell*, but I don't think enough can be got from the tail. In the next place, give a quarter of a pound of Glauber or Epsom salts, and repeat it until it operates, at intervals of three or four hours; and after that give two, three or four or five grains of Tartar Emetic, dissolved in a quarter of a pint of thin gruel, every two hours until convalescent. The first few doses may vomit; but never despair, for I can attest to the value of the last remedy given, from a half a grain to two grains every two hours for nine days or two weeks, to human beings in the same disease, and that without bleeding once. I do not profess to know what quantity of Tartar Emetic a pig will bear, but experimentalizing will probably test the quantum necessary.

I am, with respect, yours &c.,

WM. THOMAS.

Butler Co., O, Feb. 1847.
—Ohio Cult.

LADIES' DEPARTMENT.

The most delightful and rational recreation, and at the same time, healthful exercise, that a lady of refined mind can derive enjoyment from at this season of the year is, the cultivation of her flower, fruit, and vegetable garden. Mrs. Loudon, in her *Companion to the Flower Garden*, and in the other very interesting treatises written by her, gives some excellent practical directions to ladies who are desirous of acquiring a taste for gardening. From these we shall in the May number make a few extracts, as well as from any other fit and proper works we may have at hand or can have access to, upon points which are adapted to the particular season of the year. Our object will be to blend instructive with amusing and entertaining articles,—and with that view we shall be delighted to receive any such hints or communications from our Lady Friends as are adapted for publication, or may encourage us to proceed with spirit in the course chalked out for ourselves in this delightful department. We know that very many ladies merely require to apply themselves to the pleasing task to be able to give us many most excellent and appropriate productions from their pen. Let them now make the attempt in serious earnestness.

Education of Females.

We insert on page 120 a letter lately sent us by a young Lady, an inmate of that very excellent and flourishing Institution at Hamilton, C. W. "The Burlington Ladies Academy." In many of the remarks made by the writer, on general education, and as to the merits of the Institution referred to, we cordially concur—at the same time we may remark, that the letter of "Mary," published in our January number, from the *Ohio Cultivator*, upon which Flora comments, was evidently intended to be confined to observations on the education of *Farmers' Daughters*, while that of our young correspondent embraces a much wider range, viz.: the education of Young Ladies of all classes. We are in possession of evidence to shew that the Academy at Hamilton, is quite suited for such a purpose—that the Young Ladies

enjoy all the comforts of a happy home, that all the practical virtues and social feelings are inculcated among them, that in short they receive "A Moral, Religious, Intellectual, Social and Practical Education." Taking all these concurring advantages into view, and knowing that no expense or trouble is spared to render the Institution worthy of general patronage, we trust it will prove remunerative to its conductors.

Previous to the receipt of Flora's letter, we had a communication from another correspondent, and, though the views therein expressed may appear to be in advance of the spirit of the age,—we in fairness give it a place in our columns, as well as that of Flora. There may be a good deal of truth told on both sides, but of that we shall leave our readers to judge:

To the Editor of the B. A. Cultivator.

SIR—We are all well aware, that in Seminaries for the education of young women, constituted as at present, little or no instruction is given them on points, which, in my opinion, is essential to their well-being, comfort and happiness in their future career in this life. It would perhaps be thought invidious, and in every probability would not pay, for any Seminary conducted by private individuals, however excellent, to be confined to Farmers' daughters. The point was mooted in one of your late numbers, which I think resolves into the question, how then is a Farmer properly to educate his daughter? I admit that it is difficult to answer, and therefore with some diffidence lay my views before you.

I am aware of the ideas you have long and ardently entertained, us to the practical education of the Sons of farmers—by shewing them how "to put their hand to the plough," and to perform every minute branch of Agriculture as an art, by means of a model farm—and by instilling into them a knowledge of every department of it as a science, by means of a college. As you treat of these subjects in a manner that shows you view them as being quite practicable—in which you are supported by the opinions of many most patriotic and sound thinking men, I trust you will not think me very singular or peculiar, or put me aside for avowing, that I entertain (in common with many most intelligent men in Old Scotland, where the subject has met with much favorable consideration), somewhat similar notions, as to the kind and mode of instruction which is best adapted to impart a "good and

useful education," together with all the minutiae of good housewifery, so as to fit the daughter of a Farmer to rank upon something like an equality with her brother in knowledge and usefulness, and thereby to enable her either to take the leading charge of her father's household—to tend him in comfort in his declining years, particularly in the event of the death of her mother,* or the household of her brother—or to go by and bye to become the useful, diligent and prudent wife of an honest young farmer—capable not only of knowing when her maid or maids (if she has any) do their work properly; but also, if necessary, of herself doing every thing in the kitchen, nursery, or dairy—so that she can sufficiently appreciate the exertions and labours of others, when done in a correct manner.

To accomplish these most important ends satisfactorily, and to do away with the stigma that young women frequently enter upon the responsibilities of the marriage state, ignorant of domestic duties." I think these is only one of two methods to be adopted—either the mother must instruct her daughters in these branches, at home, and send them to a day school, or have a Governess to teach them to read, write, &c., or, and I confess I wish it could be done immediately, to the education taught at our public schools or private academies must be added, plain and practical instruction in needlework, knitting, mending, darning, baking, gardening, cookery, cheese and butter making, rearing of poultry, &c., &c. In fine, in all the duties and labours which such a young woman may be called upon to fulfil, as a wife and a mother.

I approve of innocent, useful accomplishments as being great ornaments to young women, and when not unduly cultivated, the means of causing much delight, harmony and genuine pleasure in the family circle; but, if a young wife can attend to little else, or converse with her husband upon almost no other subject, the comfort and happiness of the domestic hearth will vanish as speedily as the tinsel gloss of mere shewy attractions; and therefore, I strongly argue that every female ought first to receive such branches of education as may be useful to her, in whatever

* NOTE - The remarks taken from the Report of the American Board of Education, as given in page 89, of your vol. for 1846, are very appropriate to this part of my subject.

condition of life she may be—and afterwards the ornamental may be added. Some of your readers may have perused the story of the Nobleman and Basket maker, carried into banishment to a place where they had to work with their hands, or starve. The accomplishments of the one availed nothing, while the useful knowledge of the poor basket maker proved of most essential service—indeed was the means of saving both their lives. Let this not be viewed as fabulous or not at all likely to occur to any of us, for truth is often stronger than fiction, and no one, in however comfortable circumstances he or she may be at this moment, knows what in the course of God's providence may happen in one short year, and how apposite the story may prove in his or her own sad experience.

I ask, in Canada, whether is the man who can labour both with his hands and his head, or one who can labour with the latter only, the most useful person in situations and circumstances which often, perhaps suddenly and unexpectedly, come into actual existence in the drama of life?

The remark and its answer will apply with equal force to the fair sex. Mr. Skinner in his first number of the *Monthly Journal of Agriculture* states, that "no husbandman can prosper against the will, (he ought to have added ignorance) of the housewife," for as old Father Tasser quaintly says:—

"Take weapon away, of what force is a man?
Take huswife from husband, what is he than?
As lovers desireth together to dwell,
So husbandry loveth good huswifery well.

Though husbandry seemeth to bring in the gains,
Yet huswifery labors seem equal in pains—
Some respite to husbands the weather may send,
But huswives' affairs have never an end."

And Mr. S. adds, "Heaven bless them, who would not turn aside to do them a good turn?" to which I, from the heart, answer, Amen

I am, &c.,

SCOTTS.

Cold Water Gingerbread.—Take a tumblerful of molasses; half a tumblerful of cold water, dissolve an even tablespoon of saleratus in it; two tumblerful of flour; a tablespoonful of ginger, and a piece of butter as large as an egg. Stir them well together and bake quick. It is best when warm.

ELIA.

Artificial Manure.

"Now, friend Practice," continued Science, "I won't keep you standing much longer, lest I should tire you, which I make a rule never to do with my pupils; but I will just give you a small expense of my maintenance and residence with them. You know your intelligent friend, Sidney Experiment, over at Trial Valley farm. I had a great respect for Experiment; he had an active and inquiring mind; tried all new manures, and all new plants. In some things he succeeded—but in more things he failed. He often consulted me, wishing to know if this was a good manure for wheat, or that a good manure for corn; if this would produce a good yield or that a fine pasture. He used to spend an immense amount of money in artificial fertilizers. He sent to Peru for Guano—to India for Nitrate of Soda. He burnt down fires to make potashes; and dug immense pits to procure brine and make salt. He roasted iron pyrites to make sulphuric acid; and made a general gathering of bones. In short, he tried every thing he could hear of. I often pressed him to begin at the beginning, and study agriculture as a Science—*study first his Lands and then his Crops, and then his manures*; but he was so busy with his experiments that he had not time; nor did he believe me when I told him that such a study would perhaps save him years of time, which he was spending in hap-hazard experiments, and expensive, perhaps fruitless, or even injurious attempts at manuring. I made no impression upon him. He worked in his own way, gaining little wisdom, and losing many golden opportunities for acquiring solid knowledge and substantial profits.

"One day I called upon him, and observed him standing beside a workman who was cutting a trench to carry off a quantity of brown foetid liquid which had gathered in holes in the farm yard, and was sufficient, as he said, to breed a fever or a pestilence. He was going to drain it all into a rivulet which ran past his house, and so get rid of it. Stop, said I, before you do that, bring me a bucket full of that liquor. Now, Mr. Experiment, you send all the way to Peru, and bring guano at a cost of fifty dollars per ton—from India you bring nitrate of Soda at a cost of seventy dollars per ton; bones you gather, grind and dissolve in sulphuric acid, at a cost of not less than fifty dollars per ton—and even at these prices, with judicious application, they are good and pro-

fitable manures. But is it not wonderful, that while you gather these things from afar, at a vast expense, and apply them with assiduous care, you should throw them away when found at your very door, blended and mixed in most valuable proportions, and all ready for use. This dirty liquor you are throwing away, holds all these ready dissolved and you might as well, and as wisely, empty into your rivulet bags of guano, barrels of nitrate of soda, carbonyl acid of sulphuric, and bushels of bones. You look amazed. Yet so it is.

"Inquire how this liquor came into those dirty pools. It has run from your stables and cow-houses, in the form of water, washing down in its course the richest of the saline particles of the manure laying there. It has also run from the large dung-hill, where vegetable and animal substances are decaying and fermenting, generating in that process of decay, the most valuable of all fertilizers. They generate and give off carbonic acid gas, one of the most nutritious of the fruits of plants; and as rain water falls upon and runs through this dung-hill, it absorbs this carbonic acid, and carries it off with it to the pool of dirty water beneath. Humic acid is formed in the heap by the same decomposition, and is so nutritious a food for plants, that one and a half per cent of it in a soil would throw Liebig into raptures. A portion of this is washed down into that dirty water. From the ashes and sweepings of your houses, thrown on this manure heap, as well as from the decay of its general matter, a liquid is drained, which every body knows contains the potash for which you cut down your forests.

Again, wherever the decomposition of this dung-hill goes on in contact with the open air, corrosive acid is formed called nitric-acid, which is the aquafortis of the shops in a state of chemical combination with the decaying matter. To obtain this valuable salt artificially, you would have to purchase sulphuric acid and saltpetre and mix them together. Yet here you have it ready formed, and washed into this dirty water. The nitric-acid combining with the potash which you just noticed as being washed out of the dung-hill makes the nitrate of potash—a manure for which you would have to pay eighty or ninety dollars per ton. This same nitric acid, combining with the soda in the humic already noted, makes the nitrate of soda which you bring from the East Indies. From the water which has flowed out of your cow-barns, piggeries and your stables, a

produced the very substance for which you so much value the guano of distant Peru. *Ammonia, urea and phosphates of lime and soua*, are found in considerable proportions in this waste liquor. Go into your stable after it has been pent up all night, and you will find the effluvia of the ammonia sometimes strong enough to make your eyes smart and intercept your breath. Take a little guano in a spoon wet in water, and mix in a pinch of quick-lime in powder with it, to disengage the ammonia, and then smell it; it will have a powerful and pungent odour of the salt ammonia, or volatile salts of the druggist; take a spoonful of this liquor, as it lays rotting and fermenting in the sun, dash in a small powdering of quick-lime, and the ammonical gas will fly off with similar through weaker effect.* Take a thousand ounces of the water as it flows into the puddle, analyze it, and you will find it contains fifty-five ounces of ammonia and urea. In one thousand ounces of the guano of Peru, by analysis, you will find two hundred and ten ounces of these same peculiar and powerful chemical agents, not quite four times as much, which proves, that in *this respect* this dirty filth is worth rather more than one-fourth of the value of guano; in other words, that less than four pounds of this liquid, which you were going to draw off by the hundreds of gallons, is equal in value to one pound of guano. In this analysis you will find eight ounces of the phosphates of ammonia, lime or magnesia—the agents for which you purchase and dissolve bones; and about seven ounces of the sulphates of ammonia and soda, with two or three ounces of common salt; all valuable manures.

Thus, Experiment, you would have drained away the constituent parts of your most valuable manures. Had I been with you, I would have taught you to fix those escaping ammonical gases which poison your stables and float into the air from your dung-hill, to the prejudice of the health of your animals and your neighborhood; to preserve most carefully that brown waste liquor, either by drains leading into tanks, or by draining it into water-tight ponds beside your manure heap, and every other day bailing it into the heap with dry sulphuric acid, (or plaster of Paris) to fix its evaporating gases, and thus add riches equal to your reported manures, daily to your compost, and *free of cost too!* You, of all men in the world, must study nature chemically and scientifically. Let me come and live with you, and in your

leisure hours I will teach you the value of the old proverb, "*That muck is the mother of money.*"

I have lived with him since, and he finds the acquisition of knowledge quite asimple and a pleasant thing; he smiles at his former blunders, and sees how much he has lost by not beginning my acquaintance sooner."

When Science had ceased, Practice determined at all events to give him a trial. He had many fears "that he should make nothing out," and be a "dull scholar," but encouraged by the mild aspect and kind language of his instructor, he asked him to come in and take up his abode with him, and commenced taking his first lessons in the Science of Farming and Agriculture.

All of which, genl reader, is respectfully submitted, and may be continued in our next—and from time to time, if you will lend us an attentive ear."—*South. Cult.*

Foundered Horses.—Sluering.—By H. Cole. Messrs, Editors: A founder is one of the most common diseases among horses, and a very painful one too. I will give to the public a very simple cure—and a *certain* one. I am well aware of this disease, and that nine out of ten of the remedies prescribed are not worth the trouble of trying. My remedy is as follows: As soon as you discover that your horse is foundered, bleed him freely in the neck. Then, as soon as practicable, place him in water about belly deep; the colder the water the better. Let him stand in the water two thirds of a day, or if he is badly foundered, longer. Standing in the cold water will effectually drive the founder from his feet and legs, and prevent its settling there. To persons acquainted with the philosophy of this disease, this remedy will appear perfectly plain.—*Pra. Far.* [Wont such a plan drive the disease to the vitals, and so kill the horse? ED. B. A. C.]

Connecticut Manufactory.—The Middletown Sentinel learns that at the great Axe Manufactory in Collinsville, in that State, the works are kept going *night and day*—the Company have two sets of hands, and yet are unable to supply all their orders. Also, that the India Rubber Company in Waterbury, run their works *night and day*—having two sets of hands. This is truly gratifying and illustrative of the effects of enterprise properly directed.—*N. Y. Far. & Mec.*

On Horticulture.

The period is now at hand, in which strict attention to the delightful and profitable employment of gardening is particularly called for. We have often with great regret, and a feeling somewhat allied to shame, heard our Canadian Farmers reproached with being sluggards in regard to their gardens. There is certainly much excuse for those who have a farm to farm out of the wilderness, for some years so far neglecting or delaying the cultivation of a garden. But to those who have their land well cleared and are in possession of all the appliances necessary, such as good health, good soil, and ample time, we say it is a stigma and disgrace for them not to be also the owners of a nicely cultivated and trimly kept garden and orchard; this reproach we trust will soon be entirely removed. With a view to aid or accelerate the fulfilment of such a desirable object, and to shew how much salutary influence horticulture has upon the human character and health, and how much pleasure *as well as profit* is derived from it, we had an article prepared for our present number—but finding some very appropriate and beautiful remarks in the address of Dr Darlington, to the Horticultural Society of Chester, United States, we have substituted them in its stead:

“Horticulture, in the comprehensive sense in which the term is now understood, is unquestionably one of the most elegant and refined—as it is one of the most interesting—of earthly pursuits. It has for its especial objects, the production of the choicest fruits and vegetables—the training of the most ornamental trees and shrubbery—the culture of the sweetest and most beautiful flowers—and the arrangement of the whole in accordance with the principles of a refined, disciplined, unsophisticated taste. It involves, in short, all that is connected with comfort and beauty around our dwellings—all that can gratify the palate, delight the eye, or regale the most fastidious of the senses. As an *enlightened Agriculture* indicates a superior stage of civilization, in the march of human society—blending, as it does, scientific illustration with every utilitarian process, so a *perfect Horticulture* may be regarded as the crowning attainment of an intellectual and polished people.

Dedicated to the culture and improvement of the choicest productions of the vegetable creation, it is a pursuit which requires the united qualifications of practical dexterity and scientific skill—with a correct perception of the appropriate and beautiful. And while it thus exalts, and promotes, the highest mental accomplishments, it at the same time represses the more sordid or greivelling passions, and cherishes the purer aspirations of the human heart. What

can be more propitious to elevation of thought, or more congenial with purity of mind—when rightly considered—than the varied attractions of an elegant Garden? It is the place of all others—of a temporary character—best fitted to rebuke the feelings, and sublimate the affections. *A Garden* was the preselected by Divine Wisdom, as the appropriate residence of Man, while in the state of primeval innocence: and if ever, on this earth, Man should far improve as to qualify himself for a *Paradise regained*, we may fairly infer that the scene of terrestrial bliss will, again, be a perfect and beautiful *Garden*.

That the habitual association with interesting plants and flowers exerts a salutary influence on human character, is a truth universally felt and understood. No one ever dreams of any possibility of mistake, in estimating the disposition of those who delight in gardens, rural walks and hours, and the culture of elegant shade trees and shrubbery. Who ever anticipated boorish rudeness or met with incivility, among the enthusiastic votaries of *Floa*? Was it ever known, that the rural residence, tastefully planned, and appropriately adorned with floral beauties, was not the abode of refinement and intelligence? Even the splendid display of blossoms in a window—or the contrasting of a honey suckle, round a cottage door—is an unmistakable evidence of gentle spirits, and an improved humanity, within.

“While our agriculture fellow citizens may justly pride themselves on the condition and produce of their *fields*,—numbers of them have been utterly neglectful of their *Orchards and Gardens*; have discovered no manner of taste in the arrangements around their dwellings. There are yet many instances, in Chester county, of tolerably cultivated farms, on which there is scarcely any visible evidence of improvement;—no horticulture except a paltry, weedy, neglected kitchen garden; no well-selected Orchard of fruit trees; no grassward nor clustering flowers nor ornamental shrubbery, around the farm-house; not even a fruit shade-tree, to protect the dwelling from the glare of the summer’s sun.”

“Too often we may see the residence of a substantial farmer, naked and brooding, as it were, one of his open tree-less fields,—without so much as a palisade to keep the stock at a respectful distance from his doors—the persecuted contending helplessly against a swarm of under the windows of his sitting-room, and entering, as to a place of refuge, into the narrow window afforded by the building itself;—while arranged swine are either wallowing in the dirt of the kitchen—or wantonly rooting up the way at the very entrance of his dwelling.”

“How repugnant is such a scene to every feeling of refinement and comfort! How offensive to every corporeal sense as well as to every sensual fitness and propriety? What can be expected from a family, raised under circumstances so unpropitious to the formation of correct habits, or the cultivation of the finer feelings?—The children so brought up, may, indeed, be fitted to degenerate from such a home—and be prepared to

change it, without regret, for the rude accommodations as our wild frontiers: but they can have no conception of the sentiments inspired by lovely scenery around the paternal mansion. They can know nothing of the charms and abiding moral influences of pleasant homestead, upon the susceptible minds of the young. Their early years being thus destitute, they will necessarily be strangers to those precious associations by which memory renews the delights of happy childhood—and links the dreamy enjoyments of youth with the sober realities of after life. But at the present day, there is really no excuse for any such culpable providence—such boorish negligence of all that adorn a country residence, or afford the comforts of a rural home."

"There is no necessity, in this climate and country, for any family to be destitute of the luxuries derived from the Garden and Orchard; and consequently, no apology can be offered for those eggheads, who neglect to plant for themselves,—and yet, in the season of fruits, have the assurance carelessly to trespass upon their more provident neighbor. Such persons do not merely violate good manners, by their rudeness: they train up the youth about them with exceedingly loose notions of moral honesty. It is high time there was a reformation wrought among them.

The man who hath no music in himself as Shakespeare says:—

Is fit for treasons, stratagems and spoils."

Now, if such be the character of a man who is unfortunate, in relation to the pleasures of a *pleasure sense*,—what shall we say of him who cannot appreciate the delights of a rich and beautiful garden? delights, which appeal so directly to the pleasures of the senses—minister so exquisitely to *all five!* I should say, he is not fit even for *public life*,—which I believe, is the lowest qualification recognised at the present day: and I would fully concur in the judgment pronounced by the bard:—

"Let no such man be trusted."

The above observations are certainly most impressive, and come home to the kindly feelings of our nature. To these we add some appropriate remarks lately made by the Rev. Messire Leveque, of Montreal—which go to prove that the pursuit of this study leads to three most beneficial results, viz: 1st, Temperance and the consequent rejection of vice; 2nd, Prudence and regularity in our pursuits; and 3rd, Ennobling our character, giving dignity to our sentiments, and enabling us to understand the works of God.

Mr. V. says, "a taste for pursuits like gardening would go very far to prevent those gross effects which from time to time produced such effects in Canada. It would exercise a great influence in changing the present state of things in this particular, and thus the Horticultural

Society would become the greatest aid to the Temperance Society. Horticultural pursuits, too, demanded prudence and regularity. A man would know that the flowers or the plants he had long tended might be destroyed and ruined by one night's neglect, and thus he would acquire habits which must be useful to him in other pursuits.

"He would allude to only one more point, to prove the statement in his motion—this was the manner in which the science of horticulture ennobled the character of its votaries, and gave dignity to their sentiments, in making them comprehend the works of their Creator."

TORONTO MEAT MARKET.—During Easter Holidays, the Toronto market was well supplied with the very best quality of beef, mutton and veal. It would be a tedious task to make mention of the numerous specimens exhibited on front of the Butcher's stalls, many of which would have done credit even to the far famed Smithfield market, but in justice to the spirited individuals who were at so much pains and expense in getting a supply of extremely fat animals for the Holidays in question, we feel bound in making something more than a passing notice.

Mr. P. Mullaney, stall No. 25, Old Market Buildings, had exhibited on front of his stall, a cow—a heifer—and a number of fat sheep which were very much admired by all who saw them. The cow which was fed by Mr. Newlove, of the Township of Albion, weighed 900 lbs. of beef and tallow—the heifer, including beef, hide and tallow, weighed 1075 lbs. The sheep which were fed by Mr. Hutchinson, of the Township of Toronto, weighed 100 lbs. net, and finer specimens of mutton were never exhibited in the Toronto market. Larger animals have been slaughtered, but in no instance have we seen animals possessing finer point than those under notice.

The other animals we saw, which deserve especial notice, were fed and butchered by Mr. Jonathan Scott. These consisted of a heifer and bullock. The heifer weighed 750 lbs.—and the bullock, including beef, hide and tallow, weighed 1800 lbs. This animal was exhibited at the late Provincial Exhibition, to which was awarded the second prize.

Rats.—A red herring firmly fastened by a string to any place where rats usually make their run will make them leave the place. It is said to be a fact that a toad placed in a house cellar will have the effect of expelling the intruders.

—*Bangor Mercury.*

Agriculture as an Occupation.

A correspondent of the *Albany Cultivator* thus discourses upon the choice of a profession.

A sentiment has prevailed, and I fear yet prevails to an alarming extent, that the practical farmer occupies a place in society a grade lower than the professional man, the merchant, or than many other laborers. Many of our youth have imbibed this sentiment, and have been encouraged in it by the fond but injudicious parent. Thus, not a few who might otherwise have been useful members of society, have been thrown upon the world, mere pests to the community. I have certainly no antipathies to the learned professions, the mercantile business, or mechanical employments. These are all necessary and important: but I insist that agriculture is neither less important, or less honorable less useful.

The difficulty is not so much in the several kinds of business, as in the fact, that an *undue proportion* of our fellow-citizens are engaged in the former, to the neglect of the latter; and more than all, that the sentiment which I have suggested, prevents multitudes from engaging in either.

From my own observation, in a life of more than 45 years, and looking back and following the history of my early associates, and from a somewhat extended acquaintance with the world, I am fully of the opinion that that sentiment is one of the most fruitful sources of idleness and crime, of any that can be named. And yet, what multitudes of young men and guardians act, or seem to act, under its influence.

I knew a man in my early boyhood, who had a profession, but very little else, (except a numerous family) who was often heard to say, that his sons should never be farmers, let what would come. Those sons are now vagabonds, except one, who has already come to an untimely end. His daughters married gentlemen, and are both living in abject poverty. This is only one among the multitude of cases which might be mentioned. Still, men will pursue the same path.

I know a farmer with two sons—smart, active lads enjoying good health, who, not long since, rented his farm, that he and his boys might live easier. I was inclined to say to that father, take care, sir, that you train not those fine young fellows to idleness, dissipation and vice.

God made man an agriculturist, and while in a state of innocence, his first business was to till the ground. And in every age of the world, some of the greatest and the best men have been farmers. Job and Abraham were farmers; Washington and Jackson were farmers—as also a multitude of worthy names and noble spirits, who, like them, have blessed the world with examples of greatness and honorable deeds. And I rejoice to know that many in our own time, of highly cultivated intellect, and enlarged views, and worldly competence, are proud to be ranked among practical farmers.

Far better had it been for the world had the number been ten-fold greater. Far better were it for

the present generation, if in the choice of an employment, parents and their sons would view the subject as these have done; and let those sons be directed in their choice to the same wise results. Thus, much of the idleness and crime which are exerting such a fearful influence upon us, would never have existed. Many of the temptations to vice would have been avoided.

I know a father, engaged in a profession, who has an only son, for whose interest he has ever felt the deepest solicitude. When that son was 16, like many lads of his age, he manifested a strong desire to engage as a clerk in a store. The father felt that agriculture was an *equally* honorable business—much safer, and more free from temptation; yet he did not wish absolutely to compel to a course averse to his own choice. He therefore engaged a place for him with a merchant of his acquaintance, to be occupied in a few months, on condition that the son should still persist in his determination. He then took the son alone, and informed him that he had procured such a place, at the same time pointing out, in a kind manner, the disadvantages of the mercantile business, and of agriculture. He told him that he was now of an age that he must choose for himself. That which ever way he should now decide, he would be aided as much as practicable—that that decision must be final—that he might reflect upon the subject one week, and then let his decision be known.

At the close of the week, he decided “to be a farmer,” to the joy of his father. From that day onward he has pursued steadily his course—is now pleasantly situated on a comfortable farm, and is proud, at home and abroad, to be known as a farmer.

Would it not be wise for many a father and son to imitate this example? R. A. A.

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