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THE
CANADIAN AGRICULTURAL JOURNAL.

VOL. I.

MONTREAL, MAY 1, 1844.

No. 5.

It is of the first importance that farmers should understand perfectly the quality of the soil which they cultivate, in order that they may apply the soil to the production of such crops as it may be most suitable for. The soil best adapted for wheat is not the very best for barley. Oats may grow in perfection on any soil that will produce wheat or barley, but it would not be profitable to employ soil fit for wheat and barley to produce oats, which is a less valuable grain. To employ our soil to the best advantage it will be the interest of the farmer to grow the most valuable crops that it will be capable of producing, and it would also be his interest to improve the soil as much as possible to fit it to produce the most valuable crops. There is much valuable land unfit for cultivation, in consequence of imperfect drainage, that might be the best soil in Canada by sufficient draining. In the best cultivated parts of the British Isles, and where agriculture is in the most flourishing condition, regular systems of cropping have been established, and those rotations of crops are scarcely ever departed from, except for the sake of trying some experiment, or some other sufficient cause. These systems may not be invariably the best, but they are generally founded upon the principle of keeping the soil from being impoverished by the improvident or too anxious farmer. It is not always the most profitable plan, to adopt and follow, under every circumstance, a particular system of rotation of crops; many things may prevent this—first, there are so many different qualities of soil, and such a diversity of situations, and the means of procuring suitable manure vary so materially, that to raise similar crops in different situations, would require a twofold outlay of labour and capital in the one, to what would be required in the other—and, secondly, even amongst those who rank among the leading agriculturists of the country, there exists upon many points, such a diversity of opinion with regard to the best system of cropping certain sorts of land, that we need not expect that any general system of rotation will be established, nor is it actually necessary; crops may be varied in a rotation to suit the land, situation, and circumstances of the farmers, and answer all the useful purposes of a rotation. The great object of the farmer should be to improve the soil and fit it to produce the most valuable crops, and this can be effected to a very great extent. The dales and valleys in our Eastern Townships, and other hilly parts of Canada, are not so well adapted for arable culture as for grass, and the most profitable use that could be made of them would be to keep them under grass for the feeding of cattle, and for dairy cows. This sort of land is difficult for ploughing, but makes the best pasturage for cattle and sheep. We

would strongly recommend all farmers to increase their pastures, and means of keeping cattle, where it is possible, and particularly in situations that are far from market. In no way can the produce of a farm, far from market, be so profitably brought to that market as in cattle and sheep, and their products, cheese, butter, and wool. It is time that farmers should understand what is their true interest. The miserable system of agriculture so long practised, should be changed for a better. The management, or rather mis-management, of fine land should be improved. We see farmers throughout the months of May and June, plough up the green sward, and sow it with oats upon the grass furrow, at the rate of three or four bushels of seed to the acre, and if in harvest-time the ground returns a three or four-fold crop the farmer appears quite satisfied. The second, third, and probably the fourth time the land is managed in precisely the same way, and indeed for a longer period, until the grass and weeds absolutely prevail over any attempt at another miserable crop of oats; for so long as the unambitious farmer gets something beyond the seed in return, he consoles himself for the deficiency in corn, by supposing that the straw, being mixed with so great a quantity of grass, will prove an excellent substitute for hay. Hence the land has such an abundance of wild grass, thistles, and other weeds, that it is useless to sow the better kinds of grass seed or clover, as they could not contend with the rubbish already in possession of the soil. There is no means of cleaning the land of this rubbish but by summer fallowing in a proper manner, and burning up all the weeds and rubbish that can be collected upon it by repeatedly ploughing and harrowing. A portion of the soil might also be burned with these weeds, and this would greatly assist in improving the land, as ashes, or half burned clay, makes excellent manure. The ploughing of grass land for oats should be executed in the fall—in order that the green sward should be well rotted before the oats are sown. By this means the rotten sward becomes manure for the oats; it harrows well, and the crop is good. If it were possible, it would be a good plan to plough the furrows between the ridges, and shovel the earth over the oats when sown. We are sure the crop would more than pay for this additional expenditure.

A RECIPE FOR CATTLE HOVEN FROM GREEN FOOD, OR OTHER CAUSES.—To a quart-bottle of cold water, add a tablespoonful of spirits of hartshorn; drench the animal with same; if not relieved in two hours repeat the dose. This remedy I have frequently tried, and have never known it to fail.—*Farmer's Gazette.*

From the Albany Cultivator.

CULTURE OF FRUIT.

GRAFTING.—One of the most important operations in the culture of fruit trees, is the propagation of varieties by *budding* and *grafting*. By means of these, we exchange the unpalatable fruit of the wilding for the most delicious productions which art and nature combined have been able to furnish. And there are few gardens or orchards which might not be greatly improved by the introduction of the best varieties, the cultivation and care of which cost no more than that of the most worthless.

Budding and grafting have their respective advantages and disadvantages. Budding requires less skill and care, but needs the subsequent attention of removing the ligatures, and heading down the stocks. Grafting does not need this subsequent care, but more skill is requisite in the operation. The peach and nectarine can rarely if ever be propagated by grafting; and budding cannot be performed on large and unthrifty stocks, which may often be successfully grafted.

Books on gardening describe many different modes of grafting; but the multiplicity of these often more bewilder the learner than instruct him. By understanding the *essential* requisites, the operation is at once simplified, and it may be varied at pleasure without danger of failure. The two chief points are, *that the sap flowing upward through the stock passes freely into the graft, and that it returns without interruption from the inner bark of the stock.* To secure these, both the wood and bark in the stock and graft must be so cut as to admit of being placed in close contact, and when so placed, the line of separation between the bark and wood, should, on one side at least, exactly coincide in both.

The most common and useful modes are the *whip* and *cleft grafting*. Whip grafting is adopted where the stock and graft are of nearly equal size. To perform it, the stock and graft are cut off obliquely with an equal degree of slope, so as to leave two smooth straight surfaces which may be brought into close contact. A transverse cleft with the knife is to be made near the middle of each of these surfaces, about one-third of an inch deep, so that when they are pressed together, the tongue and slit thus made in each, may mutually and firmly interlock. It is then usual to bind them to their place with bass or corn husk; but it is better to have the jaws of the cleft in each so firmly pressed together as to render this unnecessary. The whole is then to be closely wrapped in a grafting plaster.

Where the stock is more than half an inch in diameter, cleft grafting is preferable. The stock is first cut off horizontally, and a split made in it at the middle of the cut surface an inch or two in depth; in this, the graft cut wedge-like, is inserted. To do it properly it is requisite that the graft be so cut as to fit the split as nearly as possible which is to be opened by a wedge on the side opposite from the place for the graft, and that the jaws of the stock be strong enough to press the sides firmly and closely. After this, the plaster is applied.

It is convenient in grafting, to have two knives, one chiefly for cutting, and the other very sharp, for smoothing the surfaces for contact.

All the branches and buds on the stock must be carefully removed, that the sap may all go to the nourishment of the graft. Failure is often caused by a want of this care.

In heading down old trees, it is a common practice to graft into the large branches; it would be much

better to cut off those branches, and to graft or bud into the young shoots which spring up in their places.

The practice of using clay to cover the wounds, is now nearly superseded by the far neater and better mode of applying plasters of grafting wax. These are made the most readily and cheaply by spreading the warmed wax over a sheet of unsized paper with a knife, or with a brush when melted, and afterwards cutting up into plasters of the requisite size. The best and cheapest wax is made by melting together one part of beeswax, two parts of tallow, and four of rosin.

As grafting early in spring is generally preferable, (more especially for the cherry,) it becomes necessary in cool weather, to soften the wax by artificial heat. A kettle of coals, or a lamp, may be used for this purpose.

BUDDING.—Budding is always to be performed when the bark peels freely, which takes place when the stocks are in a rapidly growing state. Cherries and plums should always be budded by the middle of summer; apples and pears often continue growing rapidly a month later, and peaches may be done even as late as the commencement of autumn.

It is indispensable to successful budding, that the stock be thrifty, and the shoot in which the bud is inserted, not more than a year or two old. No skill can succeed in old or stunted stocks. For the *cambium*, or mucilaginous substance between the bark and wood, which hardens into the new wood, and which cements the bud to the stock, exists only in sufficient quantities for the purpose in fast growing branches.

Every bud is an embryo plant, and the object is to transfer this from one tree to another. To effect this, it is only necessary that the bud be cut smoothly from the shoot with a very small portion of wood with it, and inserted under the raised bark of the stock, in close contact with the cambium. Provided the stock is thrifty and growing; the bud smoothly cut off, and closely and evenly applied to the stock; the cambium uninjured by removing the barks; and the bud be kept to its place a few days by a ligature of moderate pressure; it is of little consequence how the operation is performed, and there can be little danger of failure.

The common way of cutting the bark to remove it, is to make a transverse cut and longitudinal slit just through it, like the letter T. The bud is then slid downwards under the bark, in the middle of the slit. Whatever mode is adopted, the bark should be *lifted* by placing the knife at the edge, and not by running it *under*, as this always injures the cambium. After the bud is inserted, the whole should be covered, except the bud itself, with a ligature of moistened bass, corn husk, tow, or other soft substance, bound round it with just sufficient force to press the bud closely on the stock. In about two weeks, or as soon as the ligature begins to cut into the stock, it must be removed. Early the following spring, the stock is to be cut off a quarter of an inch above the bud, and in a direction sloping towards it, and all the branches and other buds carefully removed, that the whole of the nourishment may go to its growth.—*Macedon, Wayne Co., N. Y.*

J. J. T.

FOR CANDLES.—Take 2 lbs. of alum for every 10 lbs. of tallow; dissolve it in water before the tallow is put in, and then melt the tallow in the alun water, with frequent stirring, and it will clarify and *harden* the tallow so as to make a most beautiful candle.—*Selected.*

CLEARING LAND.

To the Editors of the Central N. Y. Farmer.

Believing that some portion of your readers who have new lands to clear, cannot but feel interested on the subject, and desirous of knowing the practice and experience of old farmers, I send you a brief statement of the mode adopted by me when clearing up my farm—which from the experience I have had seems a better mode for clearing up heavy timbered lands, than any other I have ever heard suggested. My experience will only benefit those who have lands so situated that it would not be an object to get off the timber for wood or lumber, but who are obliged to burn or dispose of it on the ground. It is not so much an object to the farmer to have his farm cleared up hastily, as it is to have the land when once cleared, productive and in an easy condition to till. The soil of those farms where the timber is very heavy, is never as productive when the timber is felled and cleared off when green, as it would be if the timber was to be girdled and allowed to stand until entirely dead. My practice has been after selecting the piece I desired to clear, to girdle all the timber high up from the ground, and allow it to remain standing at least four years. The object in letting the timber stand that length of time, is to allow that portion of the tree below the girdle to become tender, which will in that length of time become extremely so; the roots and limbs to rot, so that many of the stumps can be removed while "fallowing," and it requires not more than one half of the labor to fell the timber, that it would require if felled when green.

If it was not convenient to allow the timber to stand but two or three years, it would prove proportionally beneficial to girdle the timber, and save in the end much labor in clearing, from the fact that girdling can be done at that season of the year to advantage, when it would be extremely inconvenient to do any other kind of labor in cutting down the timber, still more is saved in preparing the fallow for logging. When the timber is once down, one man in about five days, if the weather is dry and favorable, will prepare ten acres for logging, by a process called among old land clearers, "niggering," which is to take your fire, place it upon the tree where you would desire to burn it in two, place a few sticks upon the fire sufficient to kindle, and thus go over the fallow, putting up the brands as the fire dies down, and by the time the five days are up, your fallow will be ready for logging and the immense amount of labor required to do the chopping will almost entirely be saved. By felling the trees side by side, many of them might be entirely consumed, but if inconvenient to fall them so, it would then be better to fall them across each other, as the fire can be more easily kindled, and will not require so much tending. The girdling can be done at any season of the year, but it would be advisable to do it in the winter season, as time is not then as valuable as at other seasons of the year, and the timber can be girdled high without trouble, the only inconvenience attending it would be that of getting around.—By adopting this mode in clearing up my land, I found that the stumps could be removed earlier than they could be if the timber was cleared off while green, and the soil prepared much earlier for plowing and agricultural purposes.

Yours, &c.,

SAMUEL DENNISON.

NO INQUIRY WITHOUT ITS USE.—It seem to be a necessary condition of human science, that we should have many (apparently) useless things in order to become acquainted with those which are of service; and

as it is impossible, antecedently to experience, to know the value of our acquisitions, the only way in which mankind can acquire all the advantages of knowledge is to prosecute their enquiries in every possible direction. There can be no greater impediment to the progress of science than a perpetual and anxious reference at every step to palpable utility. Assured that the general result will be beneficial, it is not wise to be too solicitous as to the immediate value of every individual effort. Nor is it to be forgotten that trivial and apparently useless acquisitions are often the necessary preparative to important discoveries.

RHUBARB.—This valuable plant should occupy a corner in every garden, however limited; and the cottager will find it useful and wholesome for himself and children from its cooling properties. Independent of the cheap pies and tarts which are made of the stalks, they may be boiled and eaten with bread; by blanching the stalks, which is readily done, they are not only improved in flavour, and come to perfection earlier, but one half the quantity of sugar only is required; to accomplish this, it is only necessary to exclude the light; a large flower pot or old butter firkin will do this, or a few hazel rods or rails covered with fern or straw, or any similar means, as circumstances may dictate. If the crowns have been mulched during winter, they will be forwarded.

TRANSPLANTING TREES.—Trees may be transplanted in this month with every prospect of success, where reasonable attention is paid to them. As the nourishment of trees is derived from the fibrous roots, as many of these must be left as possible when the tree is taken up. The practice too common in transplanting trees, is to dig a small hole, then cut off the roots in order to fit the hole, and thrust it in regardless of the situation of the roots. The fine roots are lost in this way, except in very young or small trees, and a failure of many must be expected. The roots of a tree should never be dry from the time they are taken from the earth till it is replanted. Trees taken from the forest require more care than those from the nurseries or open fields. Evergreens must be removed later than other kinds, or the operation is not apt to succeed, though we have planted them in April with good success. Few are aware of the value imparted to a place by having the grounds planted with useful or ornamental trees, independent of the pleasure which every person of taste must feel in their observation. And how often do we hear people regret, on seeing their neighbors' gardens abound with choice fruit, that they too had not planted in times past. The season of transplanting fruit trees is unavoidably limited to the season of defoliation, when the growth is dormant, and the excuse of men generally is, that they neither had time, or forgot to put out trees when alone the work could be done. This reminds us of the man who suffered his family to be drenched with rain, because he could not patch his roof when it stormed, and because there was no need of doing it when the weather was fair.

LAW.—Of Law there can be no less acknowledgment than that her seat is in the bosom of God, her voice the harmony of the world. All things in heaven and earth do her homage; the very lowest as feeling her care, and the greatest as not exempt from her power. Both angels and men, and creatures of what condition soever, though each in different sorts and manners, yet all with uniform consent, admiring her as the mother of peace and joy.

WASTEFUL MANAGEMENT OF MANURE.

Some idea of this may be gained by analogy. Let us imagine that a farmer keeps three teams of horses, who consume, say two quarters of Oats per week. Let the farmer give one quarter each week to the horses, and dispose of the other quarter as follows:—There may possibly be some ruts in the road leading to and from his farm-yard; let him pour as many as possible of the oats into every one of the horse-holes and ruts of this road, beginning at the gate of the yard, and proceeding to the nearest turnpike-road. There may seem much trouble in all this, but nothing valuable can ever be gained or done without trouble, and this experiment will probably always be conclusive. Some farm-yards are nicely drained, and very frequently the drains run into the horse-pond. Let the farmer insist on one of his laborers (who may possibly have some prejudice against it) pouring a good drill of oats into every drain that leads out of the yard till it arrives at the pond, where he may throw in a bushel or so, and if the drain terminates, as drains sometimes do, on a hard road, let him leave a small heap of oats in every black puddle. When he shall have done this, let him cause some of the oats to be scattered in every direction round his stable, and take every possible precaution so that the birds of the air, the mice and rats of the field, the fishes of the ponds, and the creeping things of the earth, may come in for a share of the oats. The farmer's neighbors may call him mad, but let him not mind this. Ulysses was formerly called mad for sowing salt, but now, many people sow salt who are considered sensible, and even clever. Let the enterprising improver keep perseveringly on with this practice for—say three weeks. On or about this period, the ribs of each of his three teams, when in single harness, will probably form a very respectable representation of a park paling. At this point it is time to pause, and seriously ask himself the question, whether it is wise for a man actually to facilitate the waste and destruction of produce which it has cost him much money to gain, and the economical management of which will produce more money. That which we have imagined it possible for a farmer to do with his horsefood, is not a whit more unwise than the practice of some slovenly farmers with respect to their Manures. What oats are to his horses,—Manure, and especially the liquid and gaseous portions of Manure, are to his fields. Every atom of earth which comes into contact with his dung, preserves for it some of its fertilising virtues, yet he accumulates it in unpaved yards. Every breath of air that passes over it becomes the vehicle for carrying the volatile gases, in which plants delight, from the farmer's dung-yard to everybody else's field; yet he keeps it for a year uncovered with mould. Every drop of rain which falls from the heavens, dissolves some of its most valuable portions, and conveys it away to loss; yet the good man never dreams of sinking a tank, in order to preserve a substance every pound of which, Liebig tells us, will suffice to grow a pound of wheat. Nothing can show more clearly than this national waste, the necessity of men being made acquainted with the laws of Nature, which can never be transgressed with impunity; which combine to ruin every man who regards them not; whilst there is not one law amongst them which, if understood, may not be made the ready and willing instrument of his will.—*Maidstone (Eng.) Gaz.*

IMPORTANCE OF CO-OPERATION BETWEEN THE FARMER AND CHEMIST.—We believe that by far the greatest obstacle to the advancement of scientific agricul-

ture hitherto, has been the want of co-operation between the farmer and the chemist. Each has tried to move forward alone; and we may aptly apply to them the well-known story of the lame and the blind, neither of whom alone could proceed with safety, but when united arm in arm, the defects of each were fully compensated for by the superior advantages of the other. Thus the farmer, from his knowledge of *practice*, is enabled to progress in any given direction; but, from his want of acquaintance with the fundamental *principles* of his art, may be justly considered blind; whereas the chemist, however clearly he may see the end to be attained, makes but a very lame progression, owing to his ignorance of practice. Let the two but consent to become mutually dependent, and proceeding arm in arm, the assured step of the well-practiced farmer will be guided in the right way by the clear-sighted knowledge of the enlightened chemist.—*Dr. Madden.*

EWES AND LAMBS.—A difficulty is sometimes experienced in making ewes own their lambs, and oftener, perhaps, when cases of twin lambs occur than at any other time. Those who desire to rear all their lambs may find a benefit in sprinkling a little fine salt over the disowned ones. This will usually attract the mother, and when once the operation of licking has been performed, there is seldom any danger of desertion. A friend assures us he has practiced this method with decided success, and no injury to the lambs may be apprehended from the application. Sheep, when about to lamb, should be moved and disturbed as little as possible, as all such disturbances, especially with young or wild ewes, greatly increase the probability of their forsaking their young.—*Ayrshire (Eng.) Agriculturist.*

PREPARING HOT-BEDS.—The *Western Farmer and Gardener* gives the following directions for the preparation and management of hot-beds.

"The situation should be on the southern side of a board fence or building. Take out the earth to the depth of a foot, a foot wider than the frame, and if in clay, where water is likely to stand, cut a drain from it. Then with two loads of hot unrotted horse manure, mixed, when it can be done, with leaves, corn-husks, or any such substances as ferment more slowly, it may be filled in, beating it a little with the back of a fork, but never treading it, as it otherwise will settle unequally. Put on the frame and the glass for a day or two, covering them up with some matting or cloth at night, to start the fermentation. Then put on about six inches of good fine earth, and after letting this stand a day or two, till the heat begins to rise, sow the seeds in shallow drills, or broadcast. To those who have never seen a hot-bed prepared, it will not be amiss to say, that the frame is the four sides of a box, of a foot in height on the lower side, and a foot and three inches on the upper, upon which the glazed sash rests at a slight inclination, to carry off the water; the sashes may be of any size, but the most convenient is five feet by four.

After Management.—The ground, until the seeds have started, requires to be kept well moistened, and the frames mostly closed, but if the heat be too great, the seeds may rot: from 50 to 60 deg. Fahrenheit will be the heat at which the bed should range. After the plants are up, then open the sashes in every pleasant and mild day; at first only a few inches at a time, to let off the moisture, which might otherwise rot the plants, and to make them grow strong and healthy. If kept under the glass with great heat and moisture, they grow weak and spindling; they will often require

thinning as the spring advances; give more and more air on fine days, until the sashes can be taken off entirely during the day, as the object is to get the plants perfectly accustomed to the state of the atmosphere which exists about the first of May, at which time it is usual to transplant them into the open ground. The nearer the glass can be put to the surface of the ground, the better the plants will grow, and as they increase in size, the frame may be raised. If the weather should be cold after the seeds are put in, fresh and hot manure should be put around the outside of the frame as high as the top, covering the glass at night, and sometimes during the day, if the cold is intense. Cucumbers and other plants which do not bear transplanting well, may be started in pots, or upon square pieces of turf, and removed without disturbing the roots."

ORCHARD GRASS.

To the Editors of the C. N. Y. Farmer.

GENTLEMEN,—In reading your paper, I have found many important items concerning the cultivation of the soil, which I think worthy of our best attention, and I think if farmers would give more of their attention to the experience of intelligent farmers, they might add essentially to their stock of experience. In reading your paper, I have seen communications on almost every branch of agriculture, yet I have not seen any thing concerning the cultivation of orchard grass.

I think this kind of grass is worthy of a place in all our farming journals, and a representative more competent than I am, but nevertheless as I have had some eight or ten years experience in cultivating it, I will venture to give some hints on the subject. This kind of grass is like many other things well known to almost all our farmers, yet but little attention has been paid to it; so it was with the steam power; every body that kept a teakettle, saw the power and force of steam at the spout of their kettle, yet no account was made of it till Fulton put it in operation. But to the subject. This grass has many first rate qualities, especially in pasturing; it is the first grass up in the spring, and the last in the fall, it is quick in growth and yields the richest feed in the world. Another quality is, it keeps out foul grass to a remarkable degree, it having a deep firm root, it is almost master of the field when it has a good chance, frost does not injure it, like many other kinds of grass, so that it continues to flourish many years with one stock. I have the principal part of my meadows stocked with it, and find I have derived a wonderful benefit from it both in the quantity and quality of my hay. I stock with 12 quarts of herds-grass, and half a bushel of orchard grass seed to an acre, and then I have but little trouble in keeping out foul stuff. I make it my business to summer-fallow my land, the year before I stock down, so that it may be clean for the seed, and I think I am well paid for my trouble, for I then have nothing but first quality of hay, which averaged me three tons to the acre, on the whole of my meadows that was stocked to this kind of grass. The orchard grass is remarkable for standing the drought, on account of its taking such deep root, yet it is as easy to subdue as herd-grass, and when turned over it yields an excellent manure. I have often heard men say, they did not want more than from 4 to 8 quarts of seed to the acre, but it is with them after the old proverb, he that sows sparingly, shall also reap sparingly. Try the experiment, farmers; don't be afraid of experience, the old proverb is, experience keeps a dear school, and fools learn at no other; I am one of those fools, and wish to follow the principle, till every

inch of my land yields me its full strength. Much more might be said in favor of the orchard grass, but I desist, as there are many more capable of giving it a better representation than I am, which I think is its just due.

A WEST TURIN FARMER.

CREAM.

New method of obtaining Cream from Milk, by G. Carter, Esq., of Nottingham Lodge, near Eltham, Kent.

The process of divesting the milk of its component portion of cream, to an extent hitherto unattainable, has been effected by Mr. Carter, and is thus detailed by that gentleman in a paper presented to the Society of arts. A peculiar process of extracting cream from milk, by which a superior richness is produced in the cream, has long been known and practiced in Devonshire, this produce of the dairies of that country being well known to every one by the name of "clotted," or "clouted cream." As there is no peculiarity in the milk from which this fluid is extracted, it has been frequently a matter of surprise that the process has not been adopted in other parts of the kingdom.—A four-sided vessel is formed of zinc plates twelve inches long, eight inches wide, and six inches deep, and a false bottom at one half the depth. The only communication with the lower apartment is by the lip, through which it may be filled or emptied. Having first placed at the bottom of the upper apartment a plate of perforated zinc, the area of which is equal to that of the false bottom, a gallon, (or any given quantity) of milk is poured (immediately when drawn from the cow,) into it, and must remain there at rest for twelve hours; an equal quantity of boiling water must then be poured into the lower apartment through the lip; it is then permitted to stand twelve hours more, (i. e. twenty-four hours altogether,) when the cream will be found perfect, and of such consistence that the whole may be lifted off by the finger and thumb. It is however, more effectually removed by gently raising the plate of perforated zinc from the bottom by the ringed handles, without remixing any part of it with the milk below. With this apparatus I have instituted a series of experiments, and, as a means of twelve successive ones, I obtained the following results: Four gallons of milk, treated as above, produced in twenty four hours, 4½ pints of clotted cream, which after churning only fifteen minutes, gave 40 ounces of butter. The increase of the cream, therefore, is 12½ per cent, and of butter, upwards of 11 per cent. The experimental farmer will instantly perceive the advantages accruing from his adoption, and probably his attention to the subject may produce greater results. I shall feel richly rewarded if, by exciting an interest on the subject, I can produce any the slightest improvement in the quality or mode of producing an article which may probably be deemed one of the necessities of life.

TO PREVENT CREAM FROTHING WHEN CHURNING IN WINTER.—Before commencing churning, let the cream be equally warmed to a temperature of 55 degrees, and gradually approach during the churning process to 65 or 70 degrees. Cream will rarely froth at this temperature, and it also facilitates the coming butter. The cream may be warmed by standing near the fire, by a can of hot water placed in it and stirred about, or by pouring warm water into the churn. We prefer the first or second method. A small quantity of salt thrown into the cream will also prevent its frothing.

All wish to be more happy than they can be, yet most might easily be far more happy than they really are.

THE WEATHER OF THE CONTINENT.—The *Union des Provinces* states that the cold weather in France is not to be compared to the severe frost which has been experienced in Germany and Switzerland, as will appear from the following facts:—"At Konigsberg snow fell in such quantities that wolves entered the town in the noon day. At Nuremberg the snow was nine feet in depth. In the Grisons in Switzerland, the glass stood at 23 degrees of Reaumes below freezing point, and subsequently there came a fall of snow which completely covered the hills and valleys. During several days a snow storm prevailed, which caused much injury. Five persons perished of cold and fatigue in crossing Mount Albula, and several others had their limbs frozen. Five men and thirteen head of oxen perished in an avalanche which fell from a mountain to the east of Niederwald."

The Central Congress of Agriculture yesterday opened at the Luxembourg its first session, the duration of which is fixed by the rules at one week; the Duke Decazes presided. More than 250 agriculturists from different parts of France, a great number of peers and deputies, and members of scientific societies, were present at the meeting. The bureau is composed as follows:—President, the Duke Decazes; vice-president, MM. de Gasparin, de Tracy, the Marquis de Torcy, and M. de Caumont. After having agreed upon all the questions to be discussed, the congress entered upon those of agriculture, education, and experimental farms. Several able speeches were delivered. The members then formed their committees, and adjourned at half-past four till the following day.—*Paris paper of Tuesday.*

The state of the provision markets in the sister colonies is such as must cause considerable sensation in the British islands, where the progress and condition of the Austrorians have become objects of the greatest interest. In Hobart Town, Van Diemen's Land, flour of first quality is quoted at 12*l.* 10*s.* per ton, or 14*s.* per 100 lbs., and wheat at 3*s.* 6*d.* to 4*s.* per 60 lbs.; and there is such competition in the article of bread, that it is selling at 4*d.* the four-pound loaf. From Launceston the exportations of one week included 6,034 bushels of wheat, 150 ditto oats, and 200 bags of flour. In Sydney the highest quotation for wheat is 4*s.* 3*d.* The prices of flour are considerably lower than in Van Diemen's Land. Maize of the best quality has been selling at 2*s.* 3*d.*, and in one instance 1,000 bushels changed hands at 2*s.* 2*d.*; prime maize is so abundant that inferior sorts are for the present almost unsaleable. Barley and oats are realizing only 2*s.* 6*d.* per bushel. Poultry and eggs are said to be very plentiful—the price of the latter 9*d.* per dozen. Butter is selling at 8*d.* or 9*d.* and 10*d.* per lb., if very good. Cheese 6*d.* per lb.; bacon and hams at 5*d.* per lb. Tea, sugar, and other groceries equally cheap with land produce; but in some measure to counterbalance these prices so ruinously low for the cultivators, their orange groves and vineyards are becoming exceedingly productive and profitable. Building materials are stated to be much in demand, but the copious supply of labour applicable to their production has hitherto prevented any advance in prices. The number of the unemployed and destitute is still very considerable.—*Adelaide Observer.*

UTILITY OF GEESSE TO THE FARMER.—It has been long remarked, that cattle of all kinds are never unhealthy where geese are kept in any quantity; and the reason assigned is simply this, that geese consume with complete impunity certain noxious weeds and grasses which taint more or less, according to their abundance, the finest paddocks depastured by horses, bullocks, and sheep. Most farmers are aware of this, and in many places where the beeves appear sickly change is tried, and the soil which the cacklers tread is converted for the time being into a sort of infirmary.—*New Farmer's Journal.*

EXTRAORDINARY FECONDITY OF SHEEP.—Mr. Neate, of All Cannings, near Devizes, has five sheep, which last week brought him the unusual number of fifteen fine lambs. Mr. Thomas Jones, of Little Coxwell, near Faringdon, had an ewe which yeaned four lambs; we understand they are all likely to live.

NOVEL METHOD OF WORKING BUTTER.—A very useful and ingenious mode of extracting whey from butter, was recently related to me by a gentleman who had resided many years in the grazing districts of France; and he informed me that a similar apparatus is at present in successful operation, near by here, in this State, although I have not yet seen it. He described it in a manner that could not fail to be understood by any farmer in the Union.

The machine, he represented as made of wood, in form not much unlike a grindstone, closely fitted in a trough, leaving a space between the stone and bottom of the trough not exceeding a sixteenth of an inch in thickness. The trough is first filled with clean water saturated with salt, one end of which is crowded full of the newly-churned butter. Then the stone is put in motion by means of the crank or otherwise, and the butter is drawn beneath it, and comes out at the other end of the trough in thin sheets not more than one sixteenth of an inch in thickness, almost entirely freed from the whey, and for common use requires no further salting. The brine thus prepared, has another very important office to perform. It imbibes, by chemical affinity, all the whey with which it comes in contact, and leaves the butter by itself.

* Although this apparatus is extremely rude and simple, it is obvious to an ingenious mechanic, how easily such a machine could be improved upon, and answer a tenfold purpose.—*Correspondence Am. Agriculturist.*

The balance sheet of the public income and expenditure for 1843 has been printed by order of the House of Commons. The net income and expenditure of year are given as follows:—

Income.....	£52,582,817	10	2
Expenditure.....	51,130,514	11	5½

Balance in favour of Income £1,52,302 18 8½

We shall be told, however, as we have been told one hundred times, that all this balance is China money. Let us see how that matter stands; the receipts from China are considerable, but so are the demands upon the account of China, viz:—

Total from China.....	£1,315,209
On the other hand, the	
China expenditure costs.....	£ 416,056
Opium compensation paid... ..	1,245,823
	£1,661,879

Now, deducting the whole of the China money received from the Chinese expenditure, we have thus a balance of loss of 346,670*l.*; so that, if both sides of the China account were struck from the balance sheet, we should hold have a surplus of 1,789,972*l.* But this is not all: we have another extraordinary item to deal with, viz., 262,000*l.* on account of the Exchequer-bill forgeries, raising the *bona fide* surplus to 2,051,972*l.*

Amongst the provisions, the export of cheese to England has increased wonderfully. Thus—

In 1841.....	1,651,615 lbs.
In 1842.....	1,567,944 "
In 1843.....	2,307,988 "

The above was exported from New York only.

ASPARAGUS.—A medical correspondent, on whose statement we can most implicitly rely, informs us that the advantages of this plant are not sufficiently estimated by those who suffer from rheumatism and gout. Slight cases of rheumatism are cured in few days by feeding on this delicious esculent; and more chronic cases are much relieved, especially if the patient carefully avoid all acids, whether in food or beverage. The Jerusalem artichoke has also a similar effect in relieving rheumatism. The heads may be eaten in the usual way, but tea made from the stalks, and drunk three or four times a day, is a certain remedy, though not equally agreeable.—*York Courant.*

LARGE quantities of the carcasses of seals have recently been used in the north of Scotland as manure. The bodies of the fish are intimately mixed with earth, and the compost thus formed is in high repute.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—The Council having referred the communication made to them at their last meeting by his Grace the Duke of Richmond, on the results obtained by the application of sulphuric acid and bones as a manure for turnips, to the journal committee, Philip Pusey, Esq., M. P.; the chairman of that committee, has recommended to the Council the publication of the following reports on that subject :

1.—*The Duke of Richmond's Experiments.*—Experiments made on turnips with five different kinds of manure, on the farm of Gordon castle, in the year 1843. The seed (Dale's Yellow Hybrid) was sown on the 15th of June, and as it was wished to ascertain the result while the Duke was at the castle, the turnips, before they came to maturity, were taken up on the 3d of November, and carefully topped and weighed.—1st. One imperial acre, manured with 8 bushels of bones and 14 cubic yards of farm-yard dung, at an expense of 3*l.*, produced 12 tons.—2nd. One ditto, manured with 2 cwt. 91 lbs. of guano, at an expense of 1*l.* 17s. 4d. produced 11 tons 4 cwt.—3rd. One ditto, manured with 16 bushels of bones, at an expense of 1*l.* 16s., produced 11 tons.—4th. One ditto, manured with 83*l*bs. of sulphuric acid and 2 bushels of bone-dust, mixed with 400 gallons of water, at an expense of 11s. 6d., produced 12 tons 4 cwt.—5th. One ditto, manured with 83*l*bs. of sulphuric acid, mixed with 8 bushels of bones, and produced 11 tons.

(Signed) THOMAS BELL, *Farm Steward.*

II.—*Dr. Manson's Experiments.*—My field of twenty-one acres was last autumn deeply ploughed with three horses out of oat stubble, it having previously carried a wheat crop after two years' ley, well manured. In the spring it underwent the usual process of cleaning, and received about the 1st of June twenty-five quarters of Linksfield lime. Drilling and sowing commenced upon the 10th, allowing four bushels of bones and ninety-six pounds of sulphuric acid, properly diluted with water, to the acre. The manure was prepared by putting into a large vat, placed in a corner of the field to be sown, thirty-two bushels of bone-dust; and for each bushel was added ninety-six pounds of water, and twenty-four of sulphuric acid; there were thus in the vat at once 32 bushels of bones, 384 gallons of water, and 47½ gallons of sulphuric acid. The whole was allowed to lie for a fortnight previous to use, when it was found that the acid had nearly dissolved all the bones. The mixture was then drawn off and added to water, in a large water-cart, in the proportion of one gallon of the mixture to 50 of water, and which was distributed to the drills from three spouts into three drills at a time. The drills were previously slightly harrowed down, and immediately drilled up on receiving the liquid manure. Owing to the great drought which prevailed at the time of sowing, and the very recent liming, very few of the seeds vegetated till after the rain, which fell about a month from the time of sowing. The heavy gale which prevailed about this time cut down the greater part of the early plants, and has thus left the field deficient in some places. I observed that after the field came to be singled, it underwent the process in the order in which it was sown; 13 acres having been sown with farm-yard manure, and the remaining 8 with the bones and sulphuric acid, the plants from the acid keeping the lead of those sown with court manure, and are to-day a heavier crop, though not looking quite so healthy in the blade, owing to their having come earlier to maturity. The expense, 1*l.* per acre, viz., 4 bushels of bones, at 2s. 6d., 10s.; sulphuric acid 96*l*bs. at 1¼*d.*, 10s. Those laid down with court manure received 20 cart loads per acre, at 2s. 6d. per load, 2*l.* 10s. Weight per imp. acre, as ascertained on 15th Nov., the date of weighing.

	Tons.	cwt.	lbs.	
Sulphuric acid and bones	12	5	80	per imp. acre.
Court manure.....	10	17	104	ditto.

(Signed) D. D. MANSON.
Spynic, Oct. 20, 1843.

Always have some worthy end in view, in what ever you undertake; remembering that to fail with good intentions, is more honourable than success in an evil cause.

FILTRATION OF WATER.—One of the most wonderful and valuable of the inventions of modern times was brought forward (as we perceive by the "votes and proceedings of the House of Lords") on Friday-week, by the Duke of Buccleugh, the noble president of the committee on the health of large towns. Lords Brougham and Rudnor had previously borne testimony to the vast value of this invention, having witnessed it in operation; and the former nobleman described it as effectually filtering not less than two millions and a half of gallons of water, by a machine of only five feet square, every twenty-four hours. The inventor, Mr. Stuckey, C. E., a Russian by birth, though descended from English parents; and he has most patriotically offered his patent on any terms parliament or government may think proper, to the people at large, on the ground that no patent right should prevent the universal use of an invention so necessary to the public health. A patent having been solicited and obtained in France, the private secretary of Louis Philippe has been instructed to request that invention may be brought before the notice of the chief minister of his Majesty's Civil List, and as its reputation increases it will doubtless be adopted in all countries.

SOUTHAMPTON.—(To the Editor of the *Mark Lane Express*).—SIR,—In your valuable paper I have read a plan for the destruction of rats by poison, which is at all times dangerous to have on your premises; now I beg to submit a plan which in my opinion, is much better, and will, if properly attended to, catch them by wholesale—viz, place an old corn bin in a quiet place, where the rats are known to frequent, on some bricks or wood about four inches off the ground; make a hole in the bottom of it to admit them; fit a slate between two grooved strips of wood to pull over the hole by a wire passing out through a small hole in the end of the bin, but the wire must not rest over the hole; then with a string about 40 or 50 yards long fastened to the wire, the trap will be complete. Place in the bin a loosely tied faggot or two, to separate them from fighting, and put in three or four red herrings, barley meal or new malt, &c., and let them have free ingress and egress for a week or so, feeding them every night, and when you are satisfied they have found out the entertainment, go quietly in the dark and pull the slate over the hole, and you will have a good sample of them; they should be destroyed at once, or the bin should be lined with tin. I am sir, your humble servant,—A CONSTANT READER.—Dec. 28.

GARLIC A PREVENTIVE AGAINST RATS AND MICE IN GRAIN-STACKS.—A farmer in this neighborhood has, for some time past, put garlic in the bottom of his grain-stacks, and since he has adopted that plan, has never been troubled with vermin. Before adopting this plan, on taking down a stack of grain, the assistants never killed less than from 15 to 20 rats, and above 100 mice. This is a very simple, cheap, and effective method of preserving grain in stacks.—*Paisley Advertiser.*

PASSION-FLOWERS.—The hardiest are the following:—*Passiflora acerula*, Colvilli, Mayana, and Incarnata—but they are apt to get injured if planted in the open air, even in tolerably mild winters, and particularly if the situation is not a very dry one. They strike readily from the slender shoots after midsummer, if the wood is a little hard. The cuttings should be put into white sand, covered with a bell-glass, and placed where there is a good bottom heat (either in a dung frame or hot water-pit). When struck they should be potted singly into small pots, and returned for a few days to the frame or pit; afterwards harden them off by degrees.

THE TREE-LIFTER; or, A New Method of Transplanting Forest Trees. By COLONEL GEO. GREENWOOD.

This work is important to those interested in the growth of trees. The general investigation, and, as far as is possible, exposition of all matters connected with the fundamental principle of transplanting, with a view to the healthy growth of timber, are clearly explained by the writer, who concludes "by recommending the practice of trans-

planting with the ball of earth, without reference to the theories with which it has been supported." We quote his words: Indeed, with regard to them, I do not believe that, in all vegetable physiology or agricultural chemistry, there is one principle to be depended on; in fact, the last science is a new light to us, for the first glimmering of which we are indebted to our immortal Davy. I say this with the deepest veneration for the brilliant talents and undaunted perseverance of those who have devoted themselves, and who still devote themselves, to sciences of the first importance to the existence of man and the honour, of his Creator; and, with a heartfelt disgust at those who, pluming themselves on their progress in lower but more certain science, presume to taunt with their want of success philosophers who have attempted a labour, perhaps superhuman, to throw light on the hitherto impenetrable darkness which has enveloped the processes of vitality—delineate the actually progressing operations of the hand of the Almighty, in his noblest, most finished, most complicated works."

The Canadian Agricultural Journal.

MONTREAL, MAY 1, 1844.

We have often suggested the utility of obtaining correct statistical information on the state of agriculture in Canada, and believe that it would be of great advantage that we should have such information, in order that measures might be adopted to produce such changes and improvements as would be required. It is said in England that if all that country were to be as well cultivated as the counties of Northumberland, Norfolk, and Lincoln, it would produce more than double the quantity that is now obtained. A late writer on this subject observes:—"If the cultivators of land where agricultural knowledge is the best advanced could be brought to know, upon evidence that could not admit of doubt, that the farmer of Northumberland, Norfolk, and Lincolnshire procured, from land of fertility not superior to his own, larger and more profitable crops than he is in the habit of raising, is it likely that he would be contented with his inferiority?" The farmers of England, and of most countries have been accused of an undue preference for the plans and processes employed by their ancestors, and their pertinacity in this respect has been contrasted with the rapidity that accompanies the march of improvement in mechanical and manufacturing processes. The reason of this difference is obvious. Manufacturers, residing as they do in towns, are brought necessarily and constantly together; new inventions are continually brought under their notice, so that their results can be tested and judged with the closest accuracy. Practical farmers, on the contrary, live apart; they come together but rarely, and have not that degree of acquaintanceship the one with the other, which leads them even when they meet, to the interchange of professional experience. If the result of a successful experiment should at any time reach their ears, they cannot be certain that all the circumstances connected with its prosecution have been

faithfully detailed, or that the advantages ascribed to a new method may not be the consequence of accidental causes, such as a propitious season, for instance. Men who are not well educated, are generally prone to doubt everything that is not presented to their own observation, and this is especially with regard to all improvements, which imply the mental superiority of others over ourselves. The manufacturer, on the contrary, sees for himself, he is not called upon to take any thing upon trust; he can weigh and judge with the minutest accuracy all the circumstances of each case; and what he sees can owe no part of its success to other than human agency; what some other has once done, he may always successfully imitate. It should be the object of all who wish well to agricultural improvement to remove the disadvantages, in this respect, under which the farmers labour. If results of experiments were placed before farmers upon such unquestionable authority, not resting upon a single experiment only, but upon the practice of hundreds of men, placed in the same circumstances as himself, he would receive them as undoubted facts, and most probably he would be induced to adopt whatever might come thus recommended with as great an alacrity as we see constantly exhibited by the manufacturer. We give another extract from the same author we have referred to above:—"It is to be feared that the time is yet distant in which various classes of the same community will be willing to make the apparent sacrifice, each one to his own fancied advantages, on the altar of the general good, with the conviction that the share each must obtain of the good, will prove an ample compensation for any peculiar benefit that may be relinquished." This is the grand difficulty we have to contend with in Canada; no class or party would be satisfied to relinquish any peculiar advantage which they may fancy they possess, to promote the general improvement of the country.

We apply the term "advantages" to station in society, wealth, education, and useful practical information as well as to other privileges that might all be applied to a reasonable extent, in ameliorating the condition of the people. We are satisfied that the cultivated lands of Canada might be made to produce double the quantity in value they do at present, if only proper means of instruction and encouragement were offered to the people, and we would ask who are they that come forward to give this instruction, and encouragement, that might be given without much sacrifice. The subject is so much neglected, and appears to be a matter of such indifference, that we might be tempted to view it in the same light, if our conviction of its importance had not long become a fixed principle that we must continue to hold.

The season has now arrived for the active exertions of the farmer in the field, and there is not an hour to be lost, in order that the spring sowing and planting may be completed in proper time. In the short and

rapid seasons we have here it is essentially necessary that the sowing and planting should be finished very early in June, to give time for crops to come to full maturity. With the exception of buck-wheat and turnips, all other crops should be in the ground previous to the 15th of June, and even buck-wheat should be sown as soon after as possible. Turnips may be sown up to the end of that month, and perhaps later, and it is a general opinion that sown about the 19th of July, they will have the greater chance of escaping the fly. As it is the safest plan not to sow wheat until after the 21st of May, it will be right for the farmers to sow their oats, barley, peas, Indian-corn, and plant their potatoes with as little delay as possible, commencing the moment the land is in a fit state to work. Oats, peas, and potatoes cannot be in the soil too soon, after it is fit to receive them, and we recommend that every exertion be made to finish this part of the work. There will then be an opportunity of sowing barley and wheat before the end of the month of May, and it should not be later. It is the duty of the farmer to have the soil in a proper state of preparation to receive the seed, and give some promise of a good crop, or not sow the land until it is in a state likely to yield a profitable crop. One of the greatest defects in Canadian agriculture is the imperfect cultivation of the soil, and the sowing of such soils with seed, that do not produce half a crop. It would be greatly the advantage of the farmer to allow poor, exhausted soil, that produce more weeds than useful plants, to repose in pasture, or to improve it by summer fallowing—manuring, or other means, rather than to sow it, and render it still poorer and more weedy, by cropping it when not in a state to produce a crop of any value. This system has been most injurious to this country, and it is high time to put an end to it, and introduce a better. The best soil on earth cannot be expected to yield good crops continually, without repose or manure. The soil of Canada is naturally of most excellent quality, and if done the same justice, as regards draining, and cultivation, that the soil receives in England, we might produce crops, and stock, little, if any, inferior to those raised in that country. It might, however, be necessary to have stock that would be suited to our climate and soil, and not of so large a size as the large breeds of English cattle. Where the soil has been ploughed last fall, and was not well drained, we would strongly recommend to the farmer to have it ploughed again before it is sown, or to have the soil stirred and loosened by the grubber. The grubber may, with a pair of horses and a man, loosen sufficiently, from four to six acres a day of land ploughed last fall. To harrow in seed upon ploughed land, that has been wet during the winter and spring, and has run into a soft mass that, with the heat of summer, will be dried and hard nearly as rock, is little better than throwing away seed and labour. No good crop can be expected under such circumstances. Crops must be abundant and valuable in proportion to the skilful preparation of the soil in

which they grow. The soil must first be sufficiently drained, it must be well ploughed—of the required fertility, or made so by pulverisation and manure, and then the seed should be put in in proper season, to allow the crop, of whatever kind, to come to perfect maturity before any frost can affect it in the fall. By adopting all these necessary preparations, and sowing and planting in due time, and in a proper manner, there will be a reasonable prospect of obtaining a good crop. A great evil of keeping land for many years in tillage, is, it produces weeds in such abundance, that it becomes almost impossible to check them, and every year increases the evil. Hoed crops occasionally, may, by much trouble, keep the land clear for the year, a green crop is cultivated upon it, but a repetition of grain crops on the same land will increase weeds to such an extent that they occupy most of the soil at least, and leave very little space or nutriment for the valuable plants. Pasture or meadow are the only means to prevent this evil, and all lands should be allowed rest under grass for at least as many years as they are in tillage. The steeping of wheat previous to sowing should never be neglected. Perhaps a strong brine of salt and water, is as safe a steep as can be made use of. The wheat when put into the steep, should be well stirred, and all light grains that come to the surface carefully skimmed off. If this is properly done, there is scarcely a doubt that the crop will be free from the disease of smut. We have proved this by experiment of steeped and unsteeped seed sown in the same field. That which was steeped was free from smut, while the other was very much affected by the disease. After the wheat has been taken out of steep, it should be dried with lime or ashes previous to sowing. Some recommend a small quantity of green vitriol to be dissolved in the steep, but the quantity should be small. In preparing seed barley we would recommend steeping it either in a similar steep to that used for wheat, skimming off all light grain, or it might be steeped in the leakage from the dung yard or stables, which is said to be a very good mode of preparing seed barley. It will have to be dried after steeping, in the same way as seed wheat. Oats should be well cleaned, and none sown but the full and best grains. It would also be necessary to change oats frequently, as it soon degenerates by sowing the same oats on the same soil year after year. Peas do not require much preparation, except to separate all faulty and imperfect grains previous to sowing. It is better to feed faulty and imperfect grains to the hogs, than to sow what will not grow. Potatoes might be planted whole, when of a moderate size, at 12 to 15 inches apart. When cut, they should be dried with lime, and planted the same day or immediately after cutting. To change seed potatoes frequently is very necessary, as also to plough in the manure in the fall is an excellent plan. Planting uncut seed will be sure to prevent the disease of dry-rot.

AGRICULTURAL REPORT FOR APRIL.

The weather changed to fine about the 7th, and on the 8th we had thunder and warm rain, which cleared away most of the snow from the lands in the neighbourhood of Montreal, and generally throughout the district. Indeed we have seldom seen a more favourable April than the present has been. Wheat might have been sown, if farmers were not apprehensive that if sown early it might come into ear at the period of the appearance of the wheat fly, and be destroyed by that insect. Many farmers, however, have sown wheat in the hope that the fly may not appear this year, though we very much fear it has not left us yet. It is true, they appeared much less numerous last year than the year previous but this we think, was in consequence of there not being much wheat in ear at the time of their usual appearance, the 25th June. It would be a blessing to the people if the fly has departed from the country, no more to return. The past winter was a long and severe one, commencing the 27th of October, when the first snow fell, and continuing to near the middle of April; so long a winter has seldom been known here. A long cold winter is severe upon cattle, if not well fed and sheltered. They require more food under such circumstances than if the weather was moderate. The country, is however, able to produce abundance of food for stock, if properly managed, and cultivated. In England they have to feed their cattle throughout the winter, and we can grow as much food per acre, with the exception of turnips, as they can do in that country—there is not therefore, any difficulty, that cannot be overcome, to our keeping cattle here, and profitably, under reasonable regulations for our protection from foreign competition. Britain is now open to us for beef, &c. at moderate duties and the prices in that country generally would enable farmers to obtain here, five dollars the 100 lbs. weight for good grass fed beef, for exportation. Stall fed beef would of course be for home consumption, but it should never be under six dollars the 100 lbs. weight. These prices would pay the farmer, and would not be too high for the consumer. The Montreal Markets are well supplied now with butchers' meat, and the prices are not high. All other farming produce are selling at moderate prices, and are not likely to vary much from the present rates during the season, at least for some months. Labour is abundant, and the rate moderate. There are a great number of labourers employed in the city, and at public works; but notwithstanding this, many men are idle and when a fresh supply of emigrants arrive, more will be unemployed. This is greatly to be regretted, as these men have no means of subsistence except the wages they may obtain for their labour. If farmers were in possession of capital to expend on labour and the improvement of their farms, ample employment could be had with farmers alone, for more than all the labourers that are here now, or are likely to come. Unfortunately, farmers have not this capital, and there-

fore those who sell their labour will have to depend, in a great measure, upon public works, or remain idle. The season of spring has commenced fine, and we trust the year altogether will prove propitious to the farmers. A dry year, is generally best for Canada, provided it is not too dry, and on an average of seasons, we are more favoured in this respect, than the British Isles. They have two wet harvests for one that we have in Canada. Indeed, we think the climate here, during spring, summer, and harvest, much more favourable than in the British Isles, for agriculture.

WORK OF THE FARM.

The month of May, when the weather is favourable, is the most important of the year to the Canadian farmer. It is in this month almost all the sowing and planting should be done, and it will require great exertion to accomplish this. Unless we sow and plant in proper season we cannot reap a good crop—and if the month of May is allowed to pass over without the work being finished, or very nearly so, there will not be much chance of a good crop. In this hot climate it is of great consequence that the crop should be well over ground before the very warm weather commences in order that it cover the soil and prevent too much drying. It is also of importance that the potato crop should be in a forward state so as to have them get the last moulding previous to the commencement of hay harvest. When work that belongs properly to the spring is allowed to encroach upon the time that the hay crop is ready to cut, it deranges the farm work and is very inconvenient. Every work should be done in its proper time, and all will go on well. After the crops have been sown, and planting finished, a day should not be allowed to pass until the drains, of whatever size, and all that are necessary, be put into perfectly good order. If a heavy fall of rain should occur after a field of grain or potatoes has been finished previous to the drains being in good order, the soil may become saturated with water, and the crop of whatever kind, may be very seriously injured, and never be of much value. The soil must be sufficiently dry, to insure a good crop. To accomplish this is the most essential work of the farmer. Manure cannot produce much benefit to a crop where the land is wet; in fact, such land cannot be cultivated properly, and therefore the first improvement that should be made in agriculture should be sufficient draining. If the farmer has any summer fallow on hand, if opportunity serve, he should give attention to it this month. The sooner it receives a ploughing in spring the better; it should not, however, be ploughed unless perfectly dry. The working of clay land, when not in a dry state, is very injurious, and requires great labour to bring it again into a proper tilth. Clay land, cultivated for potatoes in a wet season, is likely to yield a poor crop, and the land is not much improved by the manure or tillage. This makes it dangerous to plant potatoes in clay land, unless exceedingly well drained. Sandy, loamy,

or moss soils, will answer best for potatoes in a moist season, and in any season they will bring a fair crop, if properly managed. The fences should be examined, and if any repairs are wanted, they should be made, and crops secured from damage by cattle. It is also essential to have pastures well fenced, that cattle may not be able to leave them, or wander upon lands where they should not be. It is often the cause of dissatisfaction between neighbours, when cattle trespass in consequence of bad fences. Cattle intended for fattening, and for slaughter in the fall, should have good pasture provided for them this month. It is in the early season that cattle must be supplied with good food, if it is expected they will be properly fat in the fall.

A series of observations have been lately made both in England and in Germany, to ascertain what relation may exist between the colour and odour of plants. These experimentalists examined specimens of the flowers of more than four thousand plants belonging to twenty-seven different families, known by botanists as double seed-tubed, and single seed-tubed. In most of the families all the available genera and species were examined; and in the others the most important. There were two points to be determined; 1st, out of 4200 species of flowers, how many there were of each colour? and, 2d, how many of each colour were odorous? and the results gave:—

Coloured Species. Odoriferous Species.

White.....	1194	187
Red.....	923	84
Yellow.....	951	77
Blue.....	594	31
Violet.....	308	19
Green.....	154	24
Orange.....	50	3
Brown.....	18	1
	4200	42

From this it appears that white is the most extensively distributed colour; and that the decided colours, red, yellow, and blue, are much more plentiful than violet, green, orange, or brown, red and yellow being nearly equal, and not much less numerous than white. It appears also that about one-tenth part of the whole number are odorous; the white, which are the most plentiful, being also the most generally odorous; and among the other colours the red flowers have the greatest tendency, and the blue the least, to the formation of odoriferous substances. It was found that white flowers are not only more generally odoriferous than others, but their odour is also more frequently agreeable than that of others; for, one hundred white flowering plants, there was on an average, fifteen with agreeable odours, and only one disagreeable; whereas in one hundred variously-coloured plants the agreeable odorous were to the disagreeable only in the ratio of five to one, instead of fifteen to one. Another examination was made, in which the difference

between light and dark tints was taken into account: a light tint being regarded as possessing a good deal of the character of a white flower. Very extensive tables of classification were then formed, in which the prevailing colour of the flower is noted: then the distinctions of light, medium, and dark tints; and lastly, the number of odoriferous species in each. Of these tables we only give the last, which is the summing up of the whole:—

Intensity of colour. 1 flower.	Mean number of odoriferous species in 100, according to the prevailing colour of the flower.
With 0-12 per cent white, (dark.)	Red, Violet, Blue, Green, Yel. 5-66 ... 1-63 ... 4-66
With 12-70 per cent white, (medium.)	13-00 3-47 10-45 10 15-39
With 70-100 per cent white, (light.)	38-99 24-37 12-90 20 24-65

It will here be seen that, omitting the colours of less frequent occurrence, the odoriferous qualities are possessed in the order, red, yellow, violet, green, blue, after white as the principal; and also that, taking any one colour, there are more odoriferous species of a light than a dark shade in that colour, the relation being expressed by saying that there is a larger per centage of white in the former than in the latter. The most odoriferous combination entered in the table is the red largely diluted with white, or light red, in which is probably included all the varieties of "rose-colour." No odoriferous species are entered among the very dark violets or very dark greens. Experiments were made with black, red, and white cotton, in order to ascertain which would imbibe the most odour from being placed near *assafetida*, and it was found that white imbibed scarcely any, black imbibed a large quantity of the odour. With other colours experimented upon, it was found black received the odour with the greatest intensity, and other colours in the following order—blue, red, green, yellow, white—the last imbibing scarcely any.

In farming operations a due regard to order and regularity should be invariably observed, so that every one employed should not only know his own business well, but the proper time and season for the due performance of it. No two sorts of work or occupation should be allowed to interfere or clash with each other, or to a certainty, at least one of them will be performed in a slovenly or disorderly manner. All should be as regular and systematic as if the whole business of the farm were regulated by some well-adjusted machine. To be engaged in different sorts of work out of the proper season, (for there is a season for all things,) particularly sowing and planting; to witness, a profusion of seeds allowed to grow up and ripen; to notice rubbish and litter scattered about during the summer, are sure indications of slovenliness; if not of decidedly bad management. In the fall to neglect the repairing of ditches, and drains, where they are requir-

ed—having the fences all well secured in spring when crops are to be protected, or cattle to be kept from trespassing—the farming implements all properly secured and stowed away, until such time as they may be wanted, and not left to rot in the fields where last used, all too plainly indicate something wrong in the system. To keep all these matters in proper order is a matter of very great importance in agriculture. We may further observe respecting farming, it cannot be carried on without capital, no more than any business of a commercial character; for there is the stocking of the farm, paying of wages, and many other expenses before almost any returns are derived from the soil. Were farmers inclined to be dishonest, their affairs seldom afford them the means of mystifying matters in the way we sometimes find attempted in trade and commerce; for when a farmer's funds run short, his crops, farm-stock, implements and furniture, commonly include the sum-total of his effects; the value of which can readily be estimated by one of his neighbours. And there cannot be a doubt that where circumstances render it a difficult matter to deceive, attempts at deception are proportionately rare; and hence probably it follows that we find *honest* so generally coupled with the term farmer. But few farmers set out in life with the hope or expectation of realising large, or, indeed, moderate fortunes: nor do they look forward to retiring from business, after a certain period, as is generally the case with those engaged in commercial business. On the other hand, when prudence is exercised, few farmers need apprehend the probability of spending the evening of their days in penury. This is more particularly the case in Canada; land can be had cheap and in abundance, and though it is not possible to realise a large fortune, competence can almost certainly be secured by the industrious and skillful farmer. The following lines descriptive of the farmer's life, we copy from the *Penny Magazine*:—"Again we cannot refrain from referring to the contented and happy condition of the farmer: and if we were asked, where we would go in quest of a picture where the faces of the whole assemblage of figures should be ruddy with health, and beaming with smiling contentment, we would answer, to the market-table or ordinary, where thirty or forty intelligent and respectable farmers weekly meet and dine together, and over their good and plentiful fare discuss the various subjects connected with agriculture, particularly what comes within the local district they may be said to represent. Unlike noisy politicians, they are not all intent upon talking at once, for they feel quite satisfied in receiving and imparting such useful information as they may chance to possess—neither do they waste hour after hour in wrangling and noisy debate, nor in abusing their health by deep and oft-repeated potations, for one hour after the removal of the cloth, a majority of them will have absented themselves to transact some business they had left unfinished before dinner, or mounted on horseback, or in their vehicles

of various descriptions, will be on their way homeward, *home* being to them a term fraught with many endearing associations. The class of farmers from which we would propose sketching our picture is composed for the most part of individuals whose circumstances in life place them above any serious misgivings about the failure of a single crop; or a fall in the market prices of farm produce. Often have we delighted to join those happy groups in various parts of the country, and we do not remember ever separating ourselves from their society without entertaining an increased reverence and respect for that truly noble national character—an independent English farmer." This picture might be realised in Canada, but the farmers here do not meet as in England at an ordinary weekly, to discuss subjects interesting to them, and we regret that it is so—as we believe much good would be derived from their frequently meeting as they do in the British Isles.

The Westmoreland hams are considered in England, as the best that are made there, and sell for a high price. They are not put in pickle, as hams generally are, but, after a mixture of salt, saltpetre, and sugar is repeatedly rubbed into the hams, they are afterwards hung up in the old fashioned open chimneys, to smoke and dry, where in a few weeks they become strongly impregnated with the peculiar flavour of peat-reek (the smoke of turf,) and as black and souly as the chimney itself. The hogs from which these hams are made, are fed upon oat-meal, and this also helps to give them a good flavour, and high value. Ground oats, barley, or peas, we believe to be the best food for fattening hogs, or finishing them, and we doubt not, if judiciously given to them, it would not be more expensive than other food, and would be much less trouble. Potatoes and other vegetables may be profitably fed to swine when young, and before they are put up to fatten, but in this cold country we think that grain is best for fattening hogs, and even neat cattle should have the meal of oats or barley given them as a portion of their food when fattening.

We before observed that farming cannot be carried on without capital; the necessary amount of capital however, in some measure depends upon the situation, nature and character of the farm, whether it be a grass or grain-growing farm. A grass farm requires a little more outlay in farm stock in the first outset, and until returns begin to be made, but there is a smaller outlay in implements and wages. So essential is capital that we venture to make a somewhat general remark, that wherever we observe more than ordinary bad management upon any particular farm or farms—in a great majority of such cases, depend upon it, it proceeds from a want of funds to enable such farmers to farm as well as their neighbours. The want of capital is felt injuriously in many ways. It will not allow the farmer to have either the best implements, or stock, or the means of employing sufficient labour. He is also

obliged to dispose of produce often to a disadvantage, and he cannot purchase stock when it might be very much his interest to do so. It does not require so much capital here as in the British Isles, but it requires more than farmers generally have in their power to command. This is perhaps as great a check to the general improvement of agriculture in Canada as any that exists—and we see no means of remedy but what may be derived from the farmer's own exertions to increase the value of his produce.

The following is the second letter of Mr. Alley, on the subject of Canadian Agriculture. The first letter is equally interesting, and we may copy it another time. Any stranger who visits us must be struck with astonishment at the backward state of our agriculture, notwithstanding the excellent quality of our soil, and the free admission of our produce to the best market on earth:—

AGRICULTURE OF CANADA.—In my tours through Canada the past season, I saw many things in their mode of cultivating the soil, which particularly struck my attention. And I would here remark that the variety of style and mode of farming in Canada, are far greater than in the Northern part of the United States. Their soil, however, is nearly if not fully equal to any in America. But the yeomanry of Canada, labor under very serious inconveniences, not only from the smallness of their teams, (both ox and horse,) but their utensils and implements of husbandry are not generally suited to the country. Their soil and surface is not sufficiently clean and smooth to be easily worked by the implements of English and Scotch husbandry—which have been imported to the Province. And the best and most useful modern inventions for American agriculture, are either transported to Canada at considerable expense and sold at a high price, or are manufactured very imperfectly in the province. For few of the manufactures of Canada are as well and faithfully executed as in the United States.

The barns, sheds, buildings, and yards, are generally of an inferior kind, both as to quality and convenience. Their yards and stabling are not unfrequently found on a slope by the side of a stream in such a manner as to carry off the wash of the yard and manure of the barn, to the serious injury of the farm, and embarrassment of its occupant. Their farm dwelling houses, will not compare with the State of N. Y., with the exception of a few English Cottages where the English style of farming is partially adopted and with much better success than the common Canada fashion of farming. There are also some Scotch individuals, as well as neighbouring communities, where the farms are very well worked, and the land yields a rich return.

The native French population in their agricultural pursuits, show the greatest degree of ignorance of scientific farming of any class, except in the Indian villages and settlements, where their style of cultivating the soil, is a kind of apology for farming. The Irish who are very numerous in Canada, farm it by *patches* as a general thing, although there are some tolerable farmers among them.—The diversified kind of farming in Canada is a very fit index to the motley state of the national character of the inhabitants of the Province. This has always been one of their greatest hindrances to agricultural improvement. Besides several small divisions of other nations, the

yeomanry of Canada are divided nearly equally into Americans, English and French—and neither consider it any mark of honor to imitate the other in their mode of agriculture. And none of them have carried out the improvements of their own country. To this state of things the repeated difficulties so generally fermented throughout the Province, have greatly tended, and agricultural enterprise is constantly paralysed. As an evidence of this fact, it is known that Canada produce is worth about 10 per cent more than that on the United States side, as there is a less proportion of the inhabitants that labor or cultivate the soil. There is consequently a more ready market for consumption among themselves, and also the English tariff and duties on the Colonial trade are more favorable to Canada than to the United States. With all these decided advantages, the land in the farming districts in Canada is worth but little more than one half, compared with land of the same quality and improvements on the United States side of the line. But under all these circumstances there are some very excellent farmers in Canada, both English and American, (but very few French,) and there is an evident improvement in the country in every department of enterprise. And if the province can only become firmly settled in civil affairs, (which at present looks rather dubious,) Canada cannot fail to become one of the most interesting and flourishing farming countries on the continent of America.—The quality of its soil, and the condition of the surface of the country are perhaps unsurpassed.

J. ALLEY.

Rome, January, 1844.

The relative quantity of land and water on the surface of the globe, has been estimated as follows:—Supposing the whole surface of the earth to be divided into 1,000 equal parts, then,

The two polar zones.....	54,9137	water	18,0263	land
North temperate zone. .	132,0237	“	126,6308	“
South temperate zone...	236,6060	“	22,5458	“
North torrid zone.....	145,8102	“	52,5582	“
South torrid zone.....	153,2156	“	46,1502	“

On dividing the whole surface into two hemispheres:
Northern hemisphere 302,7844 water 197,2150 land
Southern hemisphere 431,6916 “ 60,7080 “

Out of 1000 equal portions of surface, 266 omitting the fractions are dry land, which are distributed among the continents as follows, the islands being included in those continents to which they seem most nearly to belong:—

Europe.....	16½
Asia.....	80
Africa.....	56½
New Holland.....	15½
North America.....	50½
South America.....	35

As the amount of daily evaporation from the earth's surface is obviously greatly dependant on the amount of liquid surface, it is a matter of most interesting inquiry, with reference to rain, hail, dew, &c.

We have made the following selections from the *New England Farmer*, on the culture of fruit—the cucumber—and preparing hot-beds. We shall in future, endeavour to give some information on the subject of Horticulture. A well cropped garden is very desirable to a farmer, and under judicious management, might be very profitable. A garden may be ornamental and useful, without being very expensive:—

CULTURE OF THE CUCUMBER.—I will state a fact

relative to the planting of cucumbers, which came under my observation, and which is worthy of being known. I shall at least give a further trial myself of its reality; though I cannot conceive there is a doubt remaining on the subject. Last spring, a friend of mine and myself were planting cucumbers at the same time. I was planting mine, as is usual, in gardens, by mixing a small portion of stable manure with the earth, and raising the hill an inch or two above the surface of the ground. Observing it, he jocosely remarked, "Let me show you how to raise cucumbers." Never having much luck in raising them, I cheerfully agreed to his proposition. He commenced by making holes in the earth, at the distance intended for the hills, that would hold about a peck—he then filled them with dry leached ashes, covering the ashes with a very small quantity of earth. The seed were then planted on a level with the surface of the ground. I was willing to see the experiment tried, but had no expectation of any thing but a loss of seed, labor and soil. But imagine my astonishment, (notwithstanding a drier season never was known, and almost a universal failure of garden vegetables,) when I beheld vines remarkably thrifty, and as fine a crop of cucumbers as any one could wish to raise, and they continued to bear for an unusually long time. I will not philosophize on the subject—but say to all, try it; and instead of throwing your ashes away, apply it where it will be of use, and you will rear a rich reward.—*Ohio Farmer.*

Upon the foregoing, the editor of the *Maine Cultivator* says: "We last season made trial of the above plan, and found it to succeed admirably."

The destruction of insects injurious to plants, both in the garden, and the field, is a matter of some consequence, to the gardner and farmer, and an able article has appeared in the *Farmer's Magazine*, from the pen of Professor Johnston, on the subject, by which it appears that the use of salt is highly recommended for destroying vermin, particularly slugs. Experiments have been made in England on wheat fields very much infected with slugs, that were destroying the roots of the young plants, and by an application of from four to six bushels of salt to the acre, the crop was saved from their ravages, though wheat in the next fields, where no salt was applied, was very much injured by slugs. Heavy rolling, especially during the night, is said to destroy slugs, and also wire worms. Salt, and rape powder are said to prevent the ravages of these destructive vermin—the wire worm.

It is a remarkable circumstance that in England, crops grown in land after being summer fallowed are not infected or injured by either slugs or wire worm. This fact should be sufficient encouragement to the farmers of Canada to summer fallow their lands, as the best means to destroy both vermin and weeds, as well as to improve the soil. Occasionally introducing material variation in the sort of crops cultivated upon the same soil, will have a very beneficial effect on checking the ravages of vermin, as it will deprive their larvae of the food most suitable to them, and which they are accustomed to feed upon. Salt is said to prevent the weevil injuring wheat in the store, by mixing a pint of salt to about a barrel of wheat. We

copy the following as we have found it appear in an exchange paper:—

The black and green fly may be killed by dipping the point of the young shoots of plants infected with them into a thin cream, composed of stiff yellow clay mixed with water; the clay will, it is true, look dirty upon the trees for a few days, but the first shower of rain washes it off, and the shoots will look more healthy than before the application. 'There is no fear,' says Mr. Loudon; 'of the return of the insects that season.' The scale in pines may be destroyed by the same mixture. The bug upon fruit trees may be killed by the use of the same clay and water, made as thin as whitewash, and mixing with every 6 gallons of it, 2lbs. of cream of tartar, 1lb. of soft soap, and half a peck of quick lime. 'When you think,' adds Mr. Loudon, 'that the weather is likely to continue dry for some time, take a bucketful of this mixture, and with a large brush wash over the bark of the trees, wherever you think it has been infected by the bug. A man will dress a number of trees over in a few days with a white-wash brush with this liquid; it is only necessary to be careful to do it in dry weather, so that the rain may not wash over the mixture for some time. A mixture of pepper, sugar, and water will speedily attract and destroy flies and wasps. Mr. Thomas recommends that the trees infected with moss and insects should be sprinkled with a fine powder in March, and again in October, on a foggy day, when the trees are damp but not dripping, and I have no doubt of its efficacy. The powder may be composed as follows: slack five bushels of lime hot from the kiln, with common salt and water: say 1lb. of salt to each gallon of water. When the lime has fallen to a fine powder, add, by small quantities at a time, a bushel of soot, stirring it until it be completely incorporated. Mr. Thomas has found that one man can dust over with the powder 50 trees in a day, and that the moss in the turf, under fruit trees thus treated, is also completely destroyed by the application. Worms in grass plots may be readily destroyed by copiously watering the turf with lime water, (half a pound of the hottest quick lime well stirred in a gallon of water,) or by sprinkling salt (10 bushels per acre) over it, or by strewing it on gravel walks in rather larger proportions. The caterpillars on cabbages may be readily destroyed by sprinkling them with fine powdered lime.

There can be no doubt that the careful farmer may do much to preserve his crop from injury by vermin. The wheat fly is the only insect that appears to be out of our power to check, unless by sowing wheat at such periods that it will come into ear previous to the 25th of June, or subsequent to the 15th of July—or by sowing varieties of wheat that will resist the fly, of which we know there are some that the fly cannot injure, whatever time in ear.

TO THE EDITOR OF THE CANADIAN AGRICULTURAL JOURNAL.

SIR,—Permit me to enquire, through the medium of your Journal, whether any means has yet been found, to preserve young fruit trees from the attacks of the moles or field mice during the winter months.

AN AGRICULTURIST.

Montreal, 12th April, 1844.

In reply to the enquiry of our respected correspondent, we beg to state that it is very difficult to prevent field mice from injuring fruit trees in some situations, particularly if there be any long grass, or cover of any description, for these vermin, near the roots of the trees. We would recommend all such cover, of grass, heaps of stone, or other substances that would shelter these mice, to be removed from about the trees in the

fall—and after the first fall of snow it might be well to examine about the roots of the trees, to see that no mice have taken up their quarters there. It is not the mole that burrows in the soil that injures the trees—but it is the field mice that generally form their nests in the long grass, in heaps of stone, or in brush of any description. Field mice are also injurious to thorn hedges, made of the American or English hawthorn—they strip the bark from the bush. We shall be obliged to any person who can give information on this subject, or suggest any effectual plan to prevent the damage by field mice to fruit or other trees. The mole is an animal that is considered injurious in England. It is only in rich soft soil that it can burrow in Canada, and though it does form small hills upon the surface, we cannot consider it as any injury to the farmer. The burrowing of moles, and the earth worm, we believe to be beneficial to the soil, rather than otherwise. There are many things that men view as injurious, which upon closer examination might be found the contrary. This applies particularly to birds, which we believe do great service in destroying injurious insects. . . .

The following notice of a newly invented steep for seed wheat we copy from a late number of the *Marth Lane Express*. The advertisement of this new "born-producing liquid" states that twelve gallons is sufficient to impregnate eight bushels of seed, and that one-third, and in some cases one-half less seed will do for the acre, after it has been steeped in the liquid. The price of the liquid is as follows. That for wheat 2s. 6d. barley 2s. oats 1s. 6d. beans and peas 2s. turnips and rape, 2s. 6d. per gallon.

We love agriculture, its supporters, and labourers; but we love and affect the whole community, the entire brotherhood of all mankind far better; and it is, therefore, that in our heart of hearts we hail and welcome all improvements which augur well for the increase of fertility. We even rejoice at mere hints and suggestions, since we perceive they go hand in hand with the onward spirit of the times, and produce trials and experiments, if not in the first instance realizations.

We have been led to this remark by perceiving the great sensation that has been produced by the communication in the last number of the *Transactions of the Highland Society*, of Mr. Campbell's experiments with a variety of steeps or chemical liquids, in which the seeds of wheat, barley, oats, &c., were immersed for a certain time. The results stated are altogether astonishing; and it is the duty of every friend of agricultural chemistry to urge on the trial to the utmost. We find agents appointed, and advertisements printed very extensively. But in the last *Gardener's Chronicle*, or rather that part of it entitled "The Agricultural Gazette," p. 107-8, under the head "Steeping Seeds," we read that, "The practice of steeping was tried 150 years ago, as appears from the *Farmer's Magazine*, of December, 1840. The experiment there mentioned seems to have been even more successful than those of Mr. Campbell. To him, however, the farmer's thanks are due, for re-opening the subject at a time when the attention of eminently scientific men is so much directed to making their discoveries available for the purposes of agriculture. Charles Miller, son of the celebrated botanist, published a recipe for fertilizing seed, and tried it on wheat, by mixing lime, nitre, and pigeon's-dung, in water, therein steeping the seed. The produce of some of these

grains is stated at 60, 70, and 80 stems, many of the ears six inches long, had 60 corns in each, and none less than 40. This experiment was made in 1692 (see Everard's *Essays and Experiments*); yet I do not find the idea acted upon. I incline to think it founded on nature, and worthy of serious investigation. We are careful to fertilize the soil, why not the seed?—James Caird, Caldoun, Wigtown."

Mr. Campbell's liquids are definite portions, alone or mixed, of sulphate of ammonia, muriate of ammonia, nitrate of soda, nitrate of potassa, &c. In most of these we may trace ammonia combined with an acid, that is with nitrogen and oxygen, in the form of nitric acid; nitrogen, therefore, is present. But in Mr. Miller's steep we have in the nitre, not only nitrogen, oxygen, and potash, but lime with animal matter, and also what is termed humate of lime. Thus, in the common acceptance of the term, the seed is imbued with manure as well as nitre.

The philosophy of Mr. Campbell's paper is to be found found in the assumption, that by steeping seeds in fluid, which contain their ultimate elements, he disposes them to develop their vital powers with more energy, and at the same time to seize upon (absorb) those nutritive portions of the soil which are convertible into the elements of their own organization. So at least we understand his hypothesis; and as we deem it praiseworthy, and in all probability correct, we are the more desirous to urge every man interested in the science of agriculture to lend his hand to work out the experiment recommended.

Would it not be an improvement to sell the articles in the dry state as chemicals, with accompanying directions for the preparation of the steeps? To say nothing of breakage and waste, many farmers who might hesitate to purchase 20 gallons at from 1s. 6d. to 2s. 6d. each, would be perfectly willing to lay out a few shillings on two or three small packets, wherewith to prepare steeps, and institute small comparative trials.

By Clarence and Co's circular letter, we perceive that sulphate of ammonia is quoted at 18s. per cwt.; and as this salt was found by Mr. Campbell's statement to be one of the most efficient of the steeps, a trial could be made at a very low rate; since, were it needful to lay out 18s., the sulphate is one of the very best and most permanent salts of ammonia, and could be used on the land among manures which have lost all their ammoniacal products.

But there is another point to be attended to, and that is the quality, innocent or noxious, of the liquids. Seed corn in small quantity ought to be immersed in the steep for a given number of hours, and then sown, as a trial whether the vitality of the seed shall have been affected. A gentle hot-bed would bring the matter to issue in a few days. It is always more prudent to make a saline liquid rather too weak at first. One drachm weight of the salt dissolved in cold water, just sufficient to make it up, and diluted with twelve times its bulk of rain-water, would be enough to try several hundred grains each, of oats, barley, and wheat.

MONSTER OX.—We understand that the monster ox, belonging to T. Gubbins Newton, Esq., of Bridestowe, which has made so much noise in the feeding world on account of its prodigious size, is still growing, so that he looks more like an elephant in bulk than a bullock. The animal stands 18½ hands high, and measures above four feet from pin to pin. He is a pure North Devon.

FOOD FOR THE GERMAN PEASANTRY.—Veit, in his work on husbandry, gives the following as the kind of food, and the quantity, on which the farm-labourers in Germany usually subsist, and his account is fully corroborated by Howitt's "Domestic Life in Germany." For breakfast, from one-half to two-thirds of a quart of skimmed, sour milk, with an allowance of two and a half ounces of barley-meal (or 20 ounces to eight persons) per individual. For dinner, dumplings of wheat-flour, four ounces of flour to a person, with skimmed milk; or, if meat is given, three-fourths of a pound with barley-bread, constitutes the allowance. For supper, two pounds of wheat meal, made into meal soup in skimmed milk, for a ten persons, with a pint of skimmed milk to each, and a pound and a half of

potatoes makes the meal. There are, of course, some variations in the mode of serving up this homely food, and on feast days boiled pork and beer are sometimes added to the ordinary provisions. That such a mode of living is not unfavourable to health, the condition of the German peasant, and his general longevity fully prove; but we can hardly believe a person could perform the severe tasks which meet the American labourer with such food and in such quantities as are specified above. Certainly the living of the German labourer is of the most simple and primitive kind.—*From the Cultivator, an American Magazine.*

SHOES AND BOOTS.—The following method of preparing water-proof leather, at a very small expense, will be found invariably to succeed:—Take one pint of drying oil, two ounces of yellow wax, two ounces of spirits of turpentine, and one ounce of Burgundy pitch, melted carefully over a slow fire; with this composition new shoes and boots are to be rubbed in the sun, or at a distance from the fire, with a sponge, as often as they become dry, until they are saturated; the leather then is impervious to wet, the shoes and boots last much longer, acquire softness and pliability, and, thus prepared, are the most effectual preservatives against cold and chilblains.

Agriculture was the first, and should ever be the most esteemed of all pursuits. How happy would it be for hundreds and thousands of our young men, if they could be persuaded that a few acres of ground are a better capital than as many thousand dollars procured by writing their names at the bottom of a neglectable note; and what years of misery might be saved if men would believe that a dollar actually earned as by farmers and mechanics, is worth a hundred in prospect to be gained in trade and speculation.—*Sat. Cour.*

MONTREAL MARKET PRICES.

CORRECTED BY THE CLERK OF THE MARKET.
New Market, April 30.

Wheat,.....per minot,.....	5/6 @ 6/3
Oats,..... do	1/3 @ 1/6
Barley,..... do	2/0 @ 2/6
Peas,..... do	2/0 @ 2/9
Buckwheat, do	2/0 @ 2/3
Rye,..... do	2/6 @ 3/0
Flaxseed,.... do	4/6 @ 5/0
Potatoes,.... do	1/3 @ 1/6
Beans, American, per bushel,.....	4/0 @ 4/6
Do. Canada,.... do	6/0 @ 6/8
Honey, per lb,.....	0/4½ @ 0/5
Beef,.... do	0/2½ @ 0/6
Mutton, per qr.	2/6 @ 8/9
Lamb,.... do ..	2/0 @ 3/6
Veal,.... do	2/0 @ 15/
Pork,.....per lb,.....	0/3 @ 0/5
Butter, Fresh, do	0/9 @ 0/10
Do. Salt, do	0/6 @ 0/7
Cheese,..... do	0/3 @ 0/4½
Lard,..... do	0/5 @ 0/6
Maple Sugar, do	0/4 @ 0/5
Eggs, per dozen, fresh,.....	0/4½ @ 0/6
Turkeys, (old), per couple,.....	5/0 @ 6/0
Do. (young) do	3/0 @ 5/0
Geese,..... do	4/0 @ 6/0
Ducks,..... do	2/6 @ 2/9
Fowls,..... do	2/0 @ 3/0
Chickens,..... do	1/2 @ 2/6
Partridges,.... do	2/6 @ 3/0
Hares,..... do	1/0 @ 1/3
Apples, American, per barrel,.....	6/0 @ 9/0
Do. Canada,.... do	5/0 @ 12/6
Flour, per quintal,.....	12/6 @ 13/4
Beef, per 100 lbs,.....	20/0 @ 30/
Pork, Fresh, do	22/6 @ 27/6
Hay, per 100 bundles,.....	20/0 @ 27/6
Straw, per 1200 lbs,.....	12/6 @ 17/6

THE BO-TREE (bo-gaha) or "god-tree," as Knoek calls it, is held in great esteem by the natives, as being the tree under which Budha, when in the island, was accustomed to sit and preach to the people, and against which he leaned at his death. It is to be found near every wihāra, and every place where it grows is counted sacred. Those that grow near the wihāras are generally enclosed with stones, to the height of three or four feet, the roots carefully covered with earth, and the space around swept clean. Sometimes the natives carry their veneration for it so far as to erect an altar, or place a table under it, and burn lamps near it, and offer flowers &c. to it daily, as they do to the images of Budha at their Wihāras. If they find one of these trees in the jungle, the place is cleared around it, and it is protected with as much care as those near the temples. It is a work of great merit to plant these trees, as he who does so is sure to go to heaven when he dies. It grows to a great height, and has long spreading branches. The leaf has a stalk three inches long, and itself four inches long and three broad, is triangular and has a long and sharp point. The leaves are always in motion. The fruit is small and round, and about the size of a pea, full of extremely small seeds, and grows at the base of each leaf-stalk, in clusters of six or seven. It is never eaten. The wood is soft and white; but as it is a great sin to cut it down, it is never used, the people being forbidden by their religion to burn it, even if they should find it lying on the ground rotting. It is often called "bödin wahansé" by the Singhale, the termination "wahansé" being added to the names of things and persons for whom they express great reverence:—*From Recollections of Ceylon, by Rev. J. Selkirk.*

The most aggravated wounds of domestic animals, it is said, are easily cured with a portion of the yolk of eggs mixed with spirits of turpentine.

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