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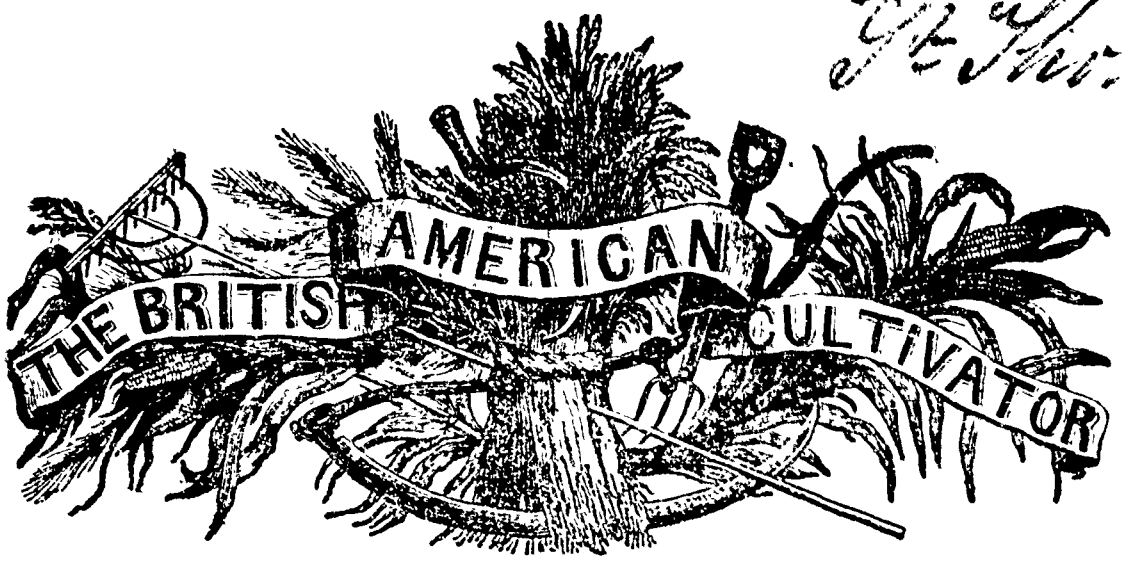


"Agriculture not only gives Riches to a Nation, but the only Riches she can call her own."

NEW SERIES.] TORONTO, JULY, 1845. [VOL. I.—No. 7.

WORK FOR THE MONTH.

This is the proper season to extirpate weeds that are injurious to agriculture. Many farms are nearly ruined with weeds, the complete destruction of which, would sacrifice a large share of the crops upon the ground; land in this state can only be made clean by a systematic course of rotation of crops, and by drill husbandry, and horse and hand-hoeing. No weeds should be permitted to grow in the fence corners, pasture grounds, or road sides; and if possible, the worst species should be destroyed that may be found among the growing crops of grain. A little attention to this matter would prove of immense importance, and would, in the course of a few years, be a means of doubling the products of the farm. It matters not how perfect the system may be that is practiced, if these particulars be neglected it may so happen that the crop will turn out a failure. The turnip, as well as all the other root crops, will require the greatest attention during this month; and unless the weeds be thoroughly destroyed, and the plants properly thinned in the rows, it is useless to hope for a paying crop of either turnips, mangel-wurtzel, carrots, or parsnips. The *cultivator* should be freely used between the rows of the above-mentioned root crops, during the first stages of their growth; and if this implement be of the most improved kind, it will perform its work so well that the hand-hoe need only be used for thinning the plants, and for destroying such weeds as may be in the rows. The *cultivator* may, with great advantage, be used three times between the rows of the root crops, including potatoes, at intervals of ten days or a fortnight each; and at the completion of each such hoeing, some fresh mould should be thrown around the roots of the plants with either a shovel or a double-mould board plough.

Hay making.—General directions have been given for making hay of a good quality in each of the previous volumes of this magazine; it therefore would be out of place to recapitulate what has so often been submitted for the benefit of the Canadian [illegible] but it might not

be amiss to mention, that the great secret in curing hay of a superior quality, consists in curing it in small cocks, and afterwards in larger ones, instead of scattering it about upon the ground to be exposed to the influence of the sun, dews, and oftentimes rain. The plan of scattering and turning the partially cured hay about upon the ground, cannot always be avoided, but it should be practiced only where necessity compels it. The revolving horse-rake is the most efficient implement that has yet been discovered, for gathering the hay into rows, and for performing the offices of the common hand rake; indeed, this implement, if properly constructed, is of such great value in saving manual labor in the hay field, and for pulling peas, and raking stubbles, that no cultivator should be without it. When their great labor saving properties are fully taken into account, their cost may truly be said to be trifling. Any clever agricultural implement maker understands the principles upon which they are constructed.

As soon as the clover hay is stacked or housed, a top-dressing of marl, mixed with an equal proportion of vegetable mould, should be spread over the sward; one hundred bushels of this mixture applied upon an acre of clover stubble, as soon as the first crop is removed off the land, will promote a large and profitable crop of clover seed, and the second year's clover will be greatly improved for grazing. The Canadian farmers cannot conceive the advantages they would derive from marling their land, unless they make a few experiments with this important fertiliser.

By the close of this month the winter wheat crop will be ready for harvesting in the south-western portions of the province, and it would be well for each farmer to make an experiment in cutting a sufficient portion of this crop while the berry is yet soft and in a dough state, to ascertain whether this is a more profitable period for cutting wheat than when it is allowed to fully ripen.

MEMORANDUM FOR PEACH-GROWERS.

It is a well ascertained fact that all deciduous trees suffer less from severe frost in winter, when their wood is perfectly matured by sufficiently warm summers, than when grown in climates where they cannot enjoy that degree of summer heat which they are naturally adapted for, and which they require for the due formation of their tissues. Hence in the North of England, young peach trees will be partially injured by a degree of frost, which, though of equal intensity, will not injuriously affect similar plants in the neighborhood of London.

If the mean temperature of February amount to 40°, and that of March to 44° or 45°, the peach tree will be in full flower against a wall with a south aspect about the last week of March.—Now this temperature in those months is not found even to the south of Lake Ontario, where the mean temperature of February is 26°, and of March 35°, yet excellent peaches are grown in that part of Canada West. From this it would appear that this lower temperature in February and March, is compensated in Canada by a higher temperature in the following months. For it is stated that the blossoms started by this higher temperature in February and March will be followed by ripe fruit in the last week in August, provided that the mean temperature of the intermediate months be as follows:

		Mean Temperature of the same Months at the Falls of Niagara.	
April, - -	49°	April, - -	50°
May, - -	55	May, - -	58
June, - -	61	June, - -	66
July, - -	64	July, - -	70
August, - -	63	August, - -	69
	292		312
			292
		Difference in favour of the Falls,	20

Which nearly compensates the difference in February and March, which is—

Feb. 40°, March 44° = 84°

In Canada, Feb. 26°, March 35° = 61

23

This compensation is possibly augmented by the mean temperature of September in Canada being 62°, while about London it is 57° only, and in consequence of the lower temperature of the early months in Canada, peaches are about a fortnight later in ripening as well as in blossoming.

The data here stated, are taken from the Penny Cyclopœdia. The memorandum may be of use in preventing the attempt to cultivate the peach tree in situations where the thermometer will shew that the heat is insufficient for that culture, both in degree and continuance.

To the Editor of the B. A. Cultivator.

Sir,—You will confer a favour by publishing the following communication, which I think would be a benefit to the community at large, as I have been asked for the receipt in question by several persons, one of which I gave to Mr. Harrison, and I believe he painted the theatre at Hamilton with the same composition, and it has proved a failure.

Having seen a receipt for making a brilliant whitewash, as is seen on the President's house at Washington, published in the seventh number of the third volume of the *Cultivator*, and taken from the *Southern Planter*; and having seen it puffed in many of the newspapers from time to time, the following experiments may be relied on, and may prevent others from being disappointed likewise:

1. September last, I procured some of the very best material, such as unslacked lime, rice flour, glue, whiting, and salt, and mixed according to the receipt, I painted over a large two story dwelling-house, that had been previously painted with whitelead and oil, some years ago, and also a large wood and carriage-house that had never been painted. These buildings looked well for a few days, especially in dry weather; but at the present time they look more shabby than if they had been left naked, and would have to be scraped before they could be painted with white lead and oil. As the whitewash is completely washed off, with the exception of a few scales of lime, both buildings now present the same bad appearance. James Lewis, Esq., has tried the same with colouring matter with the same bad effect, and has been obliged to remove it, and put on oil paint.

I would therefore recommend those that have good buildings, or bad ones, not to use it, as the making and laying it on occupied near ten days and the time was worse than lost. It adhered some better to the chimney-tops, which were brick; but even they are looking shabby. It adheres better to brick and stone than wood. I could not recommend it in any shape other than a temporary whitewash for the inside of a room; but whitelead and oil is far better, and cheaper in the end for every purpose.

Yours, &c.,

Francis G. Wilson.

Goredale Farm,
Saltfleet, 7th June, 1845.

We are obliged to Mr. Willson for the above information, and can only say that we shall in future be more cautious in giving insertion to similar articles as the one alluded to. In experimenting, it is wise to do so upon a small scale, and then there will be no risk in sustaining loss. There have been a number of receipts for making white-wash for buildings inserted in the *Cultivator*—each should have been tried upon a small scale, and the relative value of each would have been known, which, if published, would have been a boon to the public. It is impossible for the conductor of an agricultural journal to test even a tithe that is recommended to the attention of his readers. The value of his journal will depend in a great measure upon the soundness of his judgment in giving publicity to the experiments of others.—Ed.

AGRICULTURAL EDUCATION.

But few subjects that come within the province of an agricultural magazine will at all compare in importance with that of education. Agriculture can never take that stand in the ranks with the other professions that its importance would seem to warrant, until those who cultivate the soil become better acquainted with the principles which govern their professions, which at present appear matters of mystery and uncertainty even to those who profess to have some little claim to the appellation of educated farmers. No one would question the correctness of the assertion, that Canada is emphatically an agricultural country; all other interests must bow to this,—and without it the colony would not be worth any attention from the mother country. Notwithstanding all this, there is not an academical institution in the province that is of a suitable character, or in which the essential branches are taught, to complete the education of a farmer's son who desires to become proficient in the science of agriculture. If a farmer whose means would admit of the expenditure, should educate his son which he intended to be the farmer, at one of the most popular academies, colleges, or universities in the British American provinces, ten chances to one that the kind of training which the student would receive would disqualify him to be a successful farmer. Instead of acquiring a wholesome taste for rural pursuits, the kind of associations with which he would be surrounded, would to a certainty give him a distaste for the useful calling for which his parent designed him to practice. Although the present chartered educational institutions of Canada are unadapted to the circumstance and tastes of the rural classes, it by no means follows that schools of a very superior order could not be introduced, in which the farmers' sons could receive a liberal education at a moderate rate, which would qualify them to perform their honorable avocations in a manner that would be highly creditable both to the individual and nation.

It is difficult to divine what the result of the many appeals that have been made to the Canadian farmers upon this important subject will amount to; but one thing appears to us certain, that no action will be taken in the matter unless more energy be displayed by the interested parties themselves. No doubt there are many who do not believe that it is essential that farmers should be a well educated class, but from grovelling sentiments we beg to dissent. As the country gets older we hope to see a greater desire manifested by the Canadian farmers in giving their sons, whom they intend to follow the plough, a more liberal education, instead of lavishing some hundreds of pounds in educating one out of a half dozen boys to prepare him for one of the learned professions, as they are called, to the great disparagement of the neglected members of the family. A sound practical education is of infinitely more value to a young man commencing business than houses or lands without it. The following from a writer in the *Agricultural Gazette*, will serve to show the correctness of our views:—

"The education of farmers has hitherto merely taught them the labors of the farm mechanically and by rote, without any science. They have been taught the operations and seasons, but unassisted by any analytical or inductive reasoning; and hence the difficulty to improve them, and the diversity of principles, and the uncertain basis on which much of their practice stands. They may attain a certain skill in practice, such as a working watchmaker may attain in putting together a watch; but no improvement can arise unless the

laws and principles on which it must depend are known, and the mind (governed by right knowledge of causes and effects,) be brought into action enlighted but unfettered by previous practice, the time is now come when very different returns for the labor must be realised on the generality of soils, to leave the cultivators any profit, and the expenditure, too, must be lessened—not by a reduced scale of wages, but by the general use of improved machines and implements. One of the great misfortunes attending the study of agriculture has been, that the varied knowlege its improved practice calls for, is either not understood, or far too lowly rated; and indeed, it can be fully appreciated only by those who are engaged in the pursuit with proper education and views. You may make a mechanist, an engineer, an architect, a surgeon, or an accountant, by an education limited to the immediate knowledge to which either looks. An engineer need not know surgery—nor a surgeon the principles of building—nor an accountant mechanics; but unless a farmer be so educated that he may select the best implements, estimate rightly the utility of machinery, arrange his buildings, lay out his improvements, doctor his cattle, and keep his accounts, so as not only to tell him each year's gain or loss, but also to separate the result of each pursuit, he cannot be expected to farm with the advantages that should accompany his large outlay of capital. and the distant and varied returns that attend it. The pursuit of agriculture is, therefore, one in which the man of science finds much to interest him; but it is always taken up by such too eagerly, and too generally attended with unfavorable results—not because his scientific views are wrong, but from the fact that whilst farming may receive important aids from each, success depends on the well carrying out of every branch, and with a care and an economy that is bestowed only by the master's presence and discretion.

No pursuit has such a variety of interest, nor can any business or profession vie with it in happiness and independence. The farmer has every day some fresh incident, some new progress to observe—the advance of his crops, the condition of his stock, and the results of his experiments—and his life is passed in the midst of all that should make it enjoyable; its attractions are felt by the highest, and it is a following that never degrades. No profession or occupation in these respects can compare with it, and without affording large profits, it begins by giving much that large profits and years of labor are devoted to end with. *Hewitt Davis, Spring Park, Croydon.* [Extracted from a letter of advice to a father who had consulted the writer as to a pursuit for a son."

CULTIVATION OF FLAX.

Although this subject has been prominently brought before the Canadian husbandmen, through the medium of the *British American Cultivator*, still it has not had the effect of producing the results as was anticipated by its editor. All that was said in favor of the flax crop may be fully realised by every skilful cultivator; and it appears really strange that so little interest should be evinced in relation to a crop which is so well adapted to the soil and climate of this country, and which is calculated to enrich both the producer and the nation. It is useless to further urge the flax crop upon the attention of the farmers of Canada, because they appear to have neither the will or ability to introduce those changes in their system of managing their soil which would secure to them a profitable system of husbandry. Honorable exceptions, however, may be made to this broad assertion: and it is to be hoped that the day is not far distant when no cultivator will be satisfied with a net profit of one or two pounds per acre from his land, after all expenses are paid, when, by expending a little extra capital and skill, a net profit of from ten to fifteen pounds per acre might be realised as certainly as the small profit mentioned. There are a number of crops that would pay very heavy profits if only a considerable amount of skill were expended in this production, which have as yet received little or no attention from the farmers of this country. In the catalogue of those neglected crops may be found the one which may be seen at the head of this article; this by no means, should stand at the head of the list, but as it is wisely calculated to be generally cultivated upon a pretty extensive scale, it may be interesting to some of the readers of this journal that these remarks should embody some practical facts by which an opinion could be formed of the profits of the crop

So far as experience goes, we can only say that we have cultivated two acres and a half of flax the past year, which yielded in seed twenty-two bushels, and in fibre five hundred pounds of clean flax per acre. The seed was worth one dollar per bushel, and the fibre ten dollars per 100 lbs., which would give a return of seventy-two dollars for the produce of an acre; at least one half of this sum was net profits, which would equal the value of the land upon which the crop was grown. The hemp which we grew last year, was worth much more, in proportion to the land sown, than the flax, and the results of both crops were so satisfactory, that we have sown the present season thirteen acres of flax and ten acres of hemp. Indeed we feel so sanguine of the result of this experiment, that we intend to sow annually not less than one-sixth of our arable land with flax.

Much of the success of the husbandman will depend upon the rotation of crops which he pursues, and it therefore may be interesting to mention the rotation or succession of crops which we propose to practice in connection with the proposed extensive system of flax growing. As we intend that the profits of this one crop shall pay the entire expenses of the farm, we shall commence our rotation with this crop; and in the management of all the other crops upon the farm, shall have a constant eye in keeping up the fertility of the soil, so that it will be in a clean and fertile state for the flax crop once in every six years.

With the flax we shall sow down the land with clover, the first year of which will be sown in July for hay, and in October for seed; and the second year, up to the first of August, for pasture, at which period the stock will be removed off the clover; and between the twentieth of the same month and the tenth of September, the clover sward will be ploughed, pressed and sown with winter wheat; at the removal of the winter wheat the stubble will be ploughed under and the land sown with rye, to be fed off with sheep the following spring; by the middle of May the whole of the land sown with rye will be liberally manured and ploughed for the root and other hoeing crops, consisting of potatoes, turnips, carrots, mangold wurtzel, parsnips, Indian corn, dwarf field beans for feeding sheep, and a host of other crops which it may be unnecessary to mention, all of which will require an equal amount of attention with that of the ruta bago and carrots.

As soon as the fields are cleared of these multifarious hoeing crops, the land will be ploughed with a heavy winter's furrow, by exposing a large surface to the action of the frost, which is performed simply by raftering or cutting the furrows thirty inches wide, in a similar manner that ribs are formed for turnips; in the following spring, as soon as the ground is sufficiently dry for harrowing, those ribs will be harrowed down and the land made perfectly smooth, and immediately ribbed with a twelve inch furrow, and sown with spring wheat; upon the removal of the spring wheat crop the ground will be ploughed, and the following spring scarified, harrowed, rolled, and otherwise, as circumstances may require, be made in a fit state for the flax crop.

By pursuing this system of tillage the soil will be constantly getting richer and deeper, and will in process of time be-

come of a uniform texture and richness. The whole of the labour and expense of cultivating our farm upon this scale will, in nine cases out of ten, be met with the flax crop alone leaving the products of five-sixths of the farm as net profits.—Probably not one in five hundred who may have read this article will credit this assertion, but notwithstanding, we have every confidence that we will be fully borne out in our prediction unless some extraordinary influence prevents the completion of our plans, over which we may have no controul. One-sixth of our farm will be annually sown with winter wheat, one-sixth with root or such as are commonly denominated hoeing crops, and one-sixth with spring wheat; the winter and spring wheat will be sown in rows and horse-hoed, so that by this method one half of our land will be annually hoed, and the other half will be covered with a thick growth of clover and flax, with which no weeds can grow.

The expense of cultivating land in the manner described is much greater than most people would desire, and in all probability but few will practice this or any other expensive mode until the results of our experiments are made known. Every man who prides in being called a farmer, manifests more or less a desire to be styled by those around him a clever and intelligent husbandman; this appellation, however, can only be applied in justice to the man whose land is constantly improving, and whose profits in business are on a gradual increase. The idea of an intelligent farmer cultivating his land with a loss, bears upon the very face of it a contradiction of terms; in fact such a circumstance clearly proves that the farmer does not really understand the principles which govern the operations of his exalted profession. A failure of crops may with good management be of rare occurrence, but at times it is scarcely possible to obviate disasters; but when any misfortune has befallen a crop, a discerning farmer will see at once the propriety of replacing it with another that will be likely to come to perfection. No farmer should rely solely upon one branch of his business; every crop that can be successfully grown in the country should be cultivated, and by this means a market would not only be established for a variety of products which have been hitherto comparatively unknown, but the demands for those new products would be increased in proportion with the amount of productions.

The untutored reader will no doubt be bold in asserting, that the expensive system of cultivation of which we have merely given an outline, will not cover costs, and that the vast amount of labour that will be required to keep the whole machinery in complete motion, must of necessity entail the most ruinous consequences upon the farmer who adopts it. A greater mistake than this could not possibly be made, provided that the farmer who practices the improved system thoroughly understands the science as well as the practice of agriculture.

Plants, like living animals, require certain descriptions of food to bring them to a natural state of perfection, and the individual who studies Nature's laws in the management of his crops, and attends rigidly to their requirements, can scarcely fail in being a successful cultivator.

'The query will very naturally arise in the reader's mind respecting the manner in which the flax crop will be disposed of, to give so large a return in profits as to cover the entire expense of cultivating five-sixths of an arable farm with other crops. To satisfy such enquiry, we would state, that we intend to ship our seed to Ireland for sowing, in which country it will command the highest price; and taking one year with another will net at *seven shillings and six pence* currency, per bushel of fifty-two lbs. The fibre will be spun into cordage, twines, and woven into factory linens, in our country, giving a return to the grower in profits, besides the profits to the manufacturer, of at least two pounds ten shillings per 100 lbs., reckoning twenty bushels of seed, and 500 lbs. of clean fibre per acre would equal, according to our calculation, the sum of twenty pounds for the produce of an acre of flax. It is only by good management that this amount of money could be realised from an acre of flax; but at the same time it may not only be done, but twice that amount of money can be had for the produce of an acre of this crop, if cultivated and managed upon the most approved principles.

Some may accuse us of boasting, and others of presumption, in unfolding our mind so freely upon this to us very important interest; but to satisfy the most fastidious mind that other motives besides vain-glory have throughout influenced our conduct in agitating this question, we shall occupy a little space in copying some extracts from a series of very able letters written on this subject by J. H. Dickinson, London, England, which were inserted in full in recent numbers of that very valuable paper the *Agricultural Gazette*:—

"As some parties have publicly expressed their opinions on the correctness of my statement that I and others have grown Flax, by which we had, after paying all expenses, £20 per acre profit, without including the seed, which the Irish farmers viewed as of little value until lately, when their error is proved by Mr. Warnes, and Mr. Farrow, Secretary to the Ipswich Flax Society, in whose reports will be found several instances of their members, gentlemen in Norfolk, having had last year 22, 29, and 32 bushels of seed to the acre, which they value for feeding at 6s. 3d. per bushel, although foreign seed sold in Ireland last year at 12s. 6d., and the English is equally good, my object is now to prove 'that my statements are not erroneous,' as some of the old school farmers would wish to make appear; therefore, in justice to myself and the subject, I shall add in proof such facts as I hope will not fail to produce such a spirit of inquiry as will 'prevent the practical farmers' of the present day 'from shutting up their ears' to farther statements 'from me and others on the subject.'

I was favored last winter by Capt. Skinner, Secretary to the Belfast Flax Improvement Society, with copies of their annual report; and on requesting that my letter on the cultivation of flax should appear in the *Agricultural Gazette*, I forwarded the reports to the Editor, being anxious to convince him that others agreed with me in opinion, and that by following up the Belgian system of cultivation, &c., as recommended by the Belfast Society, a much larger profit than £20 per acre was possible to be obtained; and, in proof of this, I referred to a Mr. Demann, who grew flax near Armagh, for which he got £140 per ton; I also informed him that I took my statements as to the value and quantity grown in Ireland in 1843, on 112,200 acres, from a circular sent me by Mr. John Cramsie, Flax-market, Belfast, who averages that year's production at 56 stone per acre, as stated in this letter.

Now, as it always happens that the finer the quality is, the greater the produce per acre, from 60 to 70 stone, and sometimes more, it is no unreasonable to suppose that Mr. Demann (judging from Mr. Cramsie's average of 56 stone per acre), has had 60 stone; if so, his expense and profit is,

	£	s.	d.
60 stone of flax produced on 1 acre, and sold at 17s. 6d. per stone.	52	10	0
According to the reports of members of the Ipswich Flax Society Mr. D. should have had on such superior flax 29 bushels of seed, at feeding price, 6s. 3d.	9	1	3
Deduct expenses:—	61	11	3
Added to my own experience, I have the authority of an Irish flax-grower and flax-merchant, Mr. Acheson, Tanderagee, for the items of expenses incurred growing an acre.	10	0	0
Mr. Demann's profit appears to be.	£51	11	3

Being requested last spring by several gentlemen in Norfolk, Essex, Suffolk, and Scotland, to favour them with such instructions on the cultivation of the plant as I should recommend, I had much pleasure in answering their communications; and I have still more in stating the *result of their experiments.* I have now before me samples of their flax, that is so like, in color and quality, to the best Flemish, Dutch, and Courtrai, that it would puzzle the most experienced spinner to tell but that it is foreign flax; and it is well worth from £80 to £120 per ton. Added to this, some of the growers—among others Mr. Warnes, of Trimingham—assured me they had nearly 70 stone of flax, and from 29 to 32 bushels of seed to the acre.

Aware that theoretical observations can never entirely obliterate prejudice, I will place before those interested in the well-doing of the farmers of this kingdom, facts and experiments which I hope will be sufficient to raise the curtain that has so long covered the stage of the great agricultural theatre of Europe, and concealed from the eyes of the British farmers the profits of flax-growing derived by their Continental agricultural neighbors, from whom England derives scarcely any benefit; although it appears from the "Irish Farmers' Journal," these people have been draining annually from us between 10 and 12 millions sterling for flax, oil-cake, and flax-seed; and it appears, by the Paliamentary returns up to the 5th Jan., 1844, that this sum, drawn by our Continental friends, is very little short of the whole value of our exportation of manufactured cotton goods to all parts of the globe, (£16,249,-268.) By the same returns I observe that the whole amount of our exports in linen and yarns was £3,603,079, so that it follows we consume the agricultural produce of Belgium, &c., to the amount of from 7 to 9 millions sterling annually, and this sum may and ought to be kept in this country, if landholders and farmers will but study their own interest. I would just say to the calculating farmer, consider the population of Great Britain 18,800,000; deduct the inhabitants of cities, towns, and villages, who are merchants, manufacturers, and trades-people, then, on seeing what number you may allow to be farmers, ask yourself how much of this 12 millions your own share may be, and do not forget the example you have before you in the north of Ireland, where flax-spinners declare that some of them who have paid £40,000 per annum to the French, Dutch, and Russians, for flax, now distribute those large sums annually amongst the farmers in their immediate district.

I would also call attention to the following:—An Irish gentleman, Mr. Cassidy, of Glenbrook, Magherafelt, in writing on the 26th ult., to the Secretary of the Belfast Flax Society says, "I have read with pleasure and much interest the discussion on the flax question in the '*Farmers' Journal,*' and I must say the opponents of flax do it most gross injustice; for instance, in 1843 I got £145 for flax grown on barely 6 Irish acres (or say 8 English,) and I calculate, after making a liberal allowance for expenses, I had £100, or more than £16 per acre clear profit by selling the flax at 8s. to 8s. 6d. per stone in Cookstown;" then he adds, "this year I saved some seed of the flax on the Courtrai system" (before this period he did not do so, the seed was as usual lost in the watering;) "on applying it I find the seed excellent and nutritive food for milch cows, pigs, and horses; and to this kind of food we attribute the remarkable sleekness of animals feeding on it, and we observe that the milk of the cows improved, both in quality and quantity, immediately after we commenced giving them the bools."

Now, as this gentleman states that he had without the seed (for it appears he followed in 1843 the old system,) a clear profit on the

Flax-grown on eight English acres	£100 0 0
We must add to this what seed he should have had according to the Norfolk farmers' calculation, 29 bushels to the acre, or 232 bushels, at 6s. 3d. per bushel. - - -	72 10 0
	£172 10 0

Therefore, had he saved the seed, even working the flax on the old system, he would had a clear profit of £21 11s. 3d. per acre, whereas, had he managed the whole crop on the improved method, he would have got more than 8s. or 8s 6d. per stone for the flax; in all probability, 10s. or 12s. It is a well-known fact, that any uneducated ploughman can sow and reap of an acre of good land from 20 to 25 cwt. of wheat or barley, and obtain the highest price in the market. In this case the land gives the quality and does all, after the seed leaves the hand that sows it; but in flax-growing the land produces the bulk, and skill and hand-management gives quality; therefore the cultivation of such a crop is certain to give pleasure and profit to a skilful practical farmer.

Having read with pleasure the letter following mine, in page 247 of the *Chronicle,* and agreeing as I do with the writer's views, and with every syllable he makes use of respecting the neglected portion of Ireland, and comparing those parts with the northern province, which is attended to by considerate landlords, such men as the late and much-lamented Marquis of Downshire, and knowing as I do the good results from the landholders in that quarter, taking up the subject of flax cultivation, and interesting themselves in everything calculated to benefit their tenantry, I must borrow a few words from your correspondent and ask, how can it be that the newspapers are daily filled with advertisements of railway companies, joint stock companies, and many other uncertain speculations, patronised, as would appear from the prospectuses, by noblemen and other landed proprietors, yet not one company has yet started in this country to grow, or encourage the growth of flax, an article that is consumed in such quantities, and of such vast importance to the landed

interest; and above all, so certain to leave a profit for labor and money employed? I do not expect to see the Government starting model farms in every county or district in England, but I say, if the landowners of Great Britain will not be alive to their own interest, individual capitalists had far better invest their money, and try what they can do to keep in this country the 10 or 12 million sterling now paid away annually to foreigners for flax, oil-cake, and flax-seed; they will find a ready market in Yorkshire and Lancashire, for all the flax they can produce; and they will find buyers for their seed, and oil-cake among those farmers who may not grow it, although they must admit, that it is superior to anything yet found out for fattening cattle.

As the present prosperous state of our trade causes money to be plentiful, landowners are prevailed upon everywhere to lend their names, capital, and influence, to speculations on embankments and excavations. It might be prudent for landowners, while they sink their money in railways, to reflect on the state of the tenant-farmer, whilst the manufacturers are calling out to a man for open ports, and as by this letter I prove that a farmer can grow on eight acres of land what will have sufficient profit to pay the rent of a farm containing 125 acres at the highest average price in England (Leicester, 26s. 9d.,) it might be advisable for landed proprietors to do less in railways and use a little of their unemployed capital and influence in promoting the growth of Flax, an article that would remunerate farmers and enable them to pay their rents, regardless of the present protecting duty. This could be done by a joint stock company, with branches and model farms; such a company would command the influence and assistance of a powerful and wealthy body, the flax-spinners of Great Britain, who are deeply interested and most anxious to see an article grown at home that they have to look to foreigners for, an article so superior to cotton in texture and durability; such a company would act as a golden link between agriculture and commerce.

To the Editor of the B. A. Cultivator.

Sir,—The last mail brought me a supply of old country papers, and I see with regret that the landowners and farmers are using their utmost exertions to excite a hostile feeling in England to the Imperial Act for the admission of Canadian produce free of duty, and are urging the necessity of a simultaneous movement amongst the agriculturalists to effect its repeal. The old cry, that used to be raised, about the impolicy of depending on foreign countries for a supply of the first necessary of life, is now, no longer heard. *That* answered well enough, while the threatened competition came from abroad; but when the producers are natives of the British isles, or their children, and subjects of the British empire, though dwelling on this side of the Atlantic, some fresh pretext must be brought forward. We accordingly find that the speakers, at the public meetings, now dwell upon the immense and unfair advantages which the Canadian farmer enjoys. He pays no taxes worth naming—he has no poor rates—he occupies a rich virgin soil which brings forth year after year successive crops of wheat without manure. Then it is assumed, that the lowest price of wheat which can remunerate the English grower, is 56s. sterling, per quarter; and as the Canadian wheat has been sold in the English market below that price, the conclusion is drawn, that our advantages, above set forth, enable us to raise it with a profit, and undersell the old country farmers. Little do these orators know of Canada. Seated by their snug firesides, or enjoying all that wealth, and science, and labour can contribute to swell the enjoyments of the highest degree of civilization ever yet reached by man, they seem to fall into a state of feverish apprehension at the anticipated extent of competition with which they are threatened by the industry of the Canadian backwoodsman! Little do they know how small a portion of profit falls to the share of the farmer or labourer (as Col. Prince would call him) here! Now, I am convinced, that if a farmer in Canada, were to calculate the cost of raising a bushel of wheat, and then deduct the amount from the 3s. 6d. currency, which has been about the average price given by the merchant during the two last winters, it would be quite evident, that he is *not* remunerated. Nay; more I am satisfied, and those well acquainted with England confirm my view, that when wheat only fetches 56s. sterling in the English market, the English farmer realizes, in spite of all drawbacks, a greater profit than the Canadian. The fact is, that in spite of the axiom in political economy, that capital will not remain employed, unless at a remunerative profit, there is an exception in the case of the Canadian backwoodsman. The reason is not difficult to discern. His grand object is to free his land from the embarrassment of debt due in the shape of instalments to the Crown, the Canada Company, or private individuals. To leave a freehold estate to his children is his aim; and the accomplishment of this depends on the labour of himself and family. That labour may be great and protracted, but the end is certain. They can raise wheat—wheat always commands

money,—and money will eventually leave them in possession of an unincumbered freehold farm.

At present, the important question for us Canadians is, whether the Agricultural agitators in England are likely to succeed in their avowed object—the repeal of the Canada Corn Admission Bill? For the following reasons, I am of opinion they will fail: *Firstly*,—The repeal of that Act would be a manifest breach of faith. It was distinctly held out to us by the Mother Country, that on certain conditions our grain should be admitted free of duty. We complied with those conditions, and the above Act was accordingly passed. Since then, capital has been invested in all parts of Canada, on the faith of its continuance, as a solemn Act of the British Legislature, and it would be difficult to discover a more monstrous example of caprice, impolicy, and injustice, than its repeal. *Secondly*,—The plan of Sir Robert Peel seems to be, to hold a a steady balance between the agricultural and manufacturing classes in Great Britain; and the existing law is a compromise between the extreme views of both, and therefore, likely to be permanent. There has been nothing besides, either in the acts or words of Sir Robert Peel, to warrant the belief that he will yield to the clamour of the agriculturists. *Thirdly*,—The present critical state of the relations between Great Britain and the United States, make it highly inexpedient to repeal an Act which is calculated, *if let alone*, to give ten-fold strength to the connection of Canada with the Mother Country.

I am, &c.

AN EMIGRANT.

June 5, 1845.

How to make Soap.—Messrs. Editors—If you think the following article worthy of an insertion in your valuable paper, it is at your service. I have seen a great many well written articles on Agriculture, Cookery, &c. &c., but as I do not recollect of seeing any thing written on "making Soap," I will give you the following, which is the result of *years* of experience:

First, set your tub as usual, with sticks and straw, and then put your lime (slacked) on the straw to the depth of three or four inches—then take a long stick that will come a few inches above the top of the tub—wind a hay rope around the stick nearly its whole length—let the stick go through the tub two or three inches, then you can draw your ley without putting your hands into it underneath. Put your grease into the kettle, and turn in about two quarts (or enough to cover the bottom of the kettle) of your strongest ley. Boil a few minutes, then turn in a little more ley, and continue to turn in as the ley boils over, until your kettle is about two thirds or three quarters full, when you can fill up the kettle, and after skimming the contents well, dip out and empty it into the barrel. Put in two pounds rosin to one barrel soap. If your ley is of sufficient strength, you will be *sure* to have *good* soap. I have heard people complain a great deal that they did not have "good luck" in making soap. Their ashes were not good or not made from good wood, or something or other. But if the above directions are carefully followed, I can assure them that they will have no reason to complain of "poor luck," or any thing of the kind.

N. B.—Clear grease does not require more than ten minutes boiling, but where there are bones, it takes longer time. Some people put lime in the middle of the cask or tub, but the main use of lime is to strain the ley, and make it pure—therefore it should be put on the top of the straw at the bottom of the tub. AN OLD HAND.

Grey, February 23th, 1845.

—*Maine Cult.*

Experimental Crops.—The boys should request their fathers to let them have a small patch of land on which to grow experimental crops this season. The schoolboys on a model farm near Dublin, last year, raised in a large field, a crop of potatoes averaging 750 bushels per acre, and thus supported themselves at school, and made fair progress in their studies. A humble gardener in the vicinity of Cheshire, raised 64 bushels of good wheat weighing 70 lbs. per bushel, from a trifle over a half acre of highly cultivated ground. Another person produced 28 bushels of wheat from a quarter of an acre. The secret of getting these crops lies in manuring properly and pulverizing the soil very deep, say two or three feet, which they did with a spade; but you can do it much easier with a subsoil plough.

In making experiments, keep a careful record of all expenses: such as the value of labor, manure, seed, and rent of land; the value of the crop at harvesting, and the increased worth of the land. Then strike the balance between the two sums, and the difference will be the loss or gain.—*Am. Ag.*

To take rust from Iron.—Apply spirits of turpentine.

ON THE INJURY AND WASTE OF GRAIN,

ARISING FROM THE USE OF TOO MUCH SEED.

In the last volume of the *Cultivator* we directed its readers to the highly important subject of sowing the proper quantity of seed-grain upon land, as set forth in a little pamphlet written by *Mr. Hewitt Davis;* and considering the amount of good that would result to the Canadian farmers from a thorough acquaintance with this branch of their business, we copy the following ably written paper from the pen of the same gentleman, for which we are indebted to the *Agricultural Gazette*, and which will be found to accord with the opinions of the author published in this journal, as previously alluded to. Unfortunately most of the new theories that are calculated to benefit mankind, are published to the world in such a crude form, that in a majority of cases the experimenter fails at arriving at the results anticipated; and not unfrequently the discovery is condemned without a fair trial, and classed among the modern humbugs. The practice of sowing a less quantity of seed-grain upon a given area of land than what is usually sown, would undoubtedly, under a certain system of cultivation, be a means of greatly increasing the amount of produce from the soil, and under other certain management, would be a means of lessening the products; now, without giving a full statement of the whole system, it is highly probable that the inquirer after truth would attribute the results to wrong causes, and draw erroneous conclusions from experiments. Mr. Davis has neglected to mention a very essential feature of his farm-management, and upon which in a great measure his almost unparalleled success as a wheat-grower depends. By referring to his former essay, it will be seen, that the order of his rotation of croping is most complete, and also that the whole of his crops, excepting clover, are sown in rows, and horse and hand-hoed. Under Mr. D's system of cultivation the land is constantly improving, and cannot be otherwise than in a fit state for the full and natural perfection of the growth of the crops. Three pecks of seed-wheat per acre, if sown in drills twelve inches asunder, are an abundance, if the crop be horse or hand-hoed in the early part of May. By depositing the seed in rows, and by carefully hoeing the growing crop, a reduction of at least one half the seed may be made, or in other words, two pecks of seed sown in drills twelve inches apart, is equal to four pecks sown in the usual broad-cast method. If the plants be in rows, they will not only have room to *stock out*, but the stirring of the soil with the hoes will greatly promote this process, especially if they be not too much crowded in the rows. No one at all acquainted with agricultural pursuits would recommend the practice of sowing three pecks of seed wheat upon an acre of land, unless under very favorable influences. There are only three methods of management by which a farmer could safely sow this small quantity of seed, one of which has been already mentioned, and the other two are,—dibbing the seed in rows, and depositing from two to three grains in a hole—a machine for doing which has been lately introduced in England, which will execute in a most perfect manner from four to five acres per day,—and sowing the seed upon land recently cleared from the forest. The reason why new land requires less seed-grain than old, is principally because the soil is free and open, which encourages the full developing powers of the plants;

a very similar result is effected by hoeing the crop upon old land at the proper period, a clear illustration of which may be seen in hoeing garden vegetables.

There is much to be learnt, by the enlightened agriculturist carefully investigating this interesting subject; and we doubt not but the correctness of Mr. Davis' conclusions will be established by all who give the subject an impartial examination. To satisfy our readers that what we recommend to their notice we practice, as far as practicable, we would mention, that we sowed only three pecks per acre upon a nine acre field of fall wheat, which was sown in rows fifteen inches asunder, and which at this period bids fair for a full average crop of sound grain, free from all impurities. The crop in question was horse-hoed in the early part of May last, at a cost of two and six pence per acre, and the ground is entirely free from every description of weeds that is injurious to husbandry.

"It is with no ordinary satisfaction that I bring before the Society the result of many experiments which I have made for the discovery of the right proportions of seed corn that should be sown to secure the largest returns; for the importance of these experiments is very considerable, and the result has shown me that not only may a saving, nearly equal to the rent of the arable land, be advantageously effected by a saving in seed, but, what is of far more importance, the quality of the crop and the return per acre will certainly be thereby increased. That such has been the result in my practice I have not the least hesitation in asserting, from an experience of 12 years, and over five farms: and it is now for upwards of two years that I have by my writings invited general inspection of my crops; and some hundreds of farmers, during the last dry summer (which for my thin Turnip soils was a most disadvantageous season,) have come to see what has thus been grown from little more than a fourth of the ordinary proportions of seed, and at a saving of 10s. or 12s. per acre: and although some have very much over estimated the quality of my land, or considered me fortunate in having hit on a peculiar system adapted only for a peculiar situation and soil, still I am not aware that any one has denied the more than ordinary average goodness of the crops. It is now upwards of 12 years since I began to diminish my sowings of seed, and, as I shall best describe what I have been doing by bringing only one description of grain in illustration, I will take Wheat for my example, only premising that the reduction has been proportionately made in all other corn sowings, and with the like results, and that much of my land has been reclaimed from heath, and is of the poorest quality I ever saw in cultivation.

In the year 1833 I became the tenant of the Spring Park Farm, a part of a large estate that had for some years previously been in my management for the proprietor, so that although only at that period had I become the tenant, I had previously had it in cultivation for six or seven years. The proportions of seed wheat that had always been given, were from 2½ to 3 bushels to the acre, broadcast or drilled in rows 7 inches apart, and notwithstanding that manure was usually applied for this crop (and only the best portions of the farm were considered good enough for this grain,) the return seldom exceeded 24 bushels per acre, and frequently not so much. My attention was first awakened to the subject by the general yellow cast that uniformly in the spring of the year came over the thickest parts of the young wheat, and I observed that however promising the plant had appeared in the winter, a change then took place for the worse, and that, too, at the season when the meadows and other vegetables put on their most verdant colors. I further noticed that at the turn of the lands, where frequently the drill had twice deposited seed, this change was still more apparent: whilst the corn plants that had been thinned out by wireworm, or that had been thinner sown, were remarkable for their greener hue. These observations led me, in 1834, to lessen my sowings by half a bushel per acre, and finding at harvest my crop of wheat the largest I had ever known on this farm, my success induced me further to lessen the quantity of seed, and since then my practice has been to grow gradually diminishing my quantities, carefully watching the consequences that I might not hazard loss; for the stake I have at risk is too considerable for me to venture far, without first feeling my way. In this manner, and more particularly from having accidentally on one occasion sown with advantage so little as only 2 pecks to the acre, I have gone on reducing my sowings until, at this time, my standard is only 3 pecks per acre; and I fancy I still sow too much. Since I have written on the subject, I have each year (to enable the public to witness the contrast) had the wheel that regulates the quantity of seed changed for a turn in two or three fields, so as to put on a double allowance (6 pecks per acre,) that the difference might be seen; and last year I had a field at Selsden, near Croydon, in wheat, situate by the side of the high road to Croydon, having in the centre a double turn thus sown; the whole came up well: but throughout the winter the thicker sown showed by far the best, and had the greenest hue, the difference being apparent a mile off; and thus it continued till towards April, when this part gradually drooped, and became equally remarkable for its yellower hue, and up to the harvest never recovered to bear comparison with the thinner sown; and their, strange to say, the straw was 3 inches shorter, and the ears

¼th less, than the rest of the field, and it had every appearance of owing its lesser luxuriance to a want of dressing, and which the remainder of the field seemed to have had. Whereas, the whole field had no dressing of any kind for four years, and during that period had borne six luxuriant crops, viz:—1st year, Swedes, half of which were sold at 20 guineas per acre, and pulled and carried off by the purchaser to London. 2nd year, Oats, the yield of which was upwards of 105 bushels per acre. 3rd year, Red Clover, which was twice mown, and made into hay, and afterwards again cut for green meat, and such was its luxuriance, that the third cutting lasted till the second week in November. 4th year, Beans, the produce was beyond 4 quarters to the acre, with a good crop of Turnips sown in the Beans. 5th year, Wheat, which yielded above 4¼ quarters per acre; and yet no dressing of any kind had been applied since the one for the Swedes, save what the sheep had left when feeding off the half crop of Swedes and the Turnips which had been sown among the Beans; the field at this time (spring, 1845,) is sown with Tares, and has the promise of a fine crop. I have selected this field above every other for an example to be made public; for, from its situation—it lay in the sight of many of the farmers who attended Croydon market, and passed it weekly—the experiment cannot have failed to have been noticed by them and hundreds of others: and the facts here stated are too well known to admit of any doubt of their correctness.

Having this shown, in practice, what has resulted from diminishing my quantities of corn seed, I will now explain why it is that 3 pecks of Wheat per acre will yield more than a large quantity. The contents of an average ear of Wheat, taken from where the usual quantity of seed (say 2½ bushels) has been sown, is about 30 grains; therefore it is clear, if a grain of seed produces only one ear, 30 times the seed should be returned at harvest. It also follows that, if the yield of an acre be 30 bushels, and more than 1 bushel has been sown, more plants will at first be produced than come to maturity, and the consequence must be that, after growing through the winter, a period will arrive when their will be neither space, air, nor nutriment for the whole to continue to increase in a healthy state, and stagnation and disease of the whole must ensue; that all this does happen, the sickly appearance of the Wheat in the spring, and the great number of defective plants at harvest, has clearly shown to me. I am aware it may be said, I have made no allowance for the loss by birds, wireworms, slugs, game, and the many enemies the young plants have to struggle with; but to this objection I reply, that such is the extraordinary power given to all the cereal grasses to *stock out*, that no allowance is necessary (and were it necessary, I should say wrong would be done to provide against an uncertain, casual, and partial loss, by oversowing in the first instance, and with the certainty of thereby injuring the whole;) but the fact is, that, instead of calculating the return at thirty-fold, that is to say, that only one grain of seed will produce only one ear, and that ear only 30 grains, a single grain will produce, where room is given, many ears, and these ears from 40 to 100 grains each, so that the return, as has frequently been shown, would be above a thousand-fold; and hence extra allowance for casual loss cannot under any view be necessary or advisable when a bushel is talked of as the quantity of seed for an acre of land.

It is an extraordinary fact, that whilst the wheat is naturally so prolific a plant as to yield a thousand for one, the return for the seed sown throughout Great Britain cannot be said to be more than about ten-fold; and of the crop raised, a tenth is given back to the soil, and yet the saving of seed which I advise may be most advantageously made, would afford six weeks consumption, and in itself amounts to more than the average importations in the last 14 years; so that according to my theory and practice, a saving at once may be made to diminish the expenses of the cultivation of the arable land of Great Britain, equal to more than half the rent that is paid for it, and by the saving the occasion for a foreign supply would be superseded, and this, too, simply by an economy, the want of which I am anxious to show is in itself highly injurious to the growth of corn, and even of far more consequence than the value of the lost seed. A further and very important consideration is also necessary, namely, how far the Wheat-plant, from the present practice of over-crowding it, is prevented from partaking of the improvement in size and yield, which better individual attention to cultivation and selection of seed has made with plants in gardening. We are indebted for our finer fruits and vegetables wholly to the care given to afford increased nutriment and ample space for the better development of selected plants; and I fancy an opening is here before us which some day may be taken advantage of to produce a larger and better berry; but ample space must not be forgotten to be afforded, or it will be in vain to look for larger growth. It is gratifying to me to find that already very considerable attention has been paid to my representations, and I have heard from many of their success who have been trying thinner sowing; and in my travels in the autumn, I have frequently observed by the greater width of the drills, that my notions are being very generally tested. I have only to express my hope that when failure results, as under every system will happen occasionally, care will be taken to trace it to the right cause, and not to impute every want of plant, every short crop, to thinner sowing; for want of plants and failure of crop is is frequently the attendant of thick sowing, and may arise from 20 causes independent of thin sowing. Were I called upon to say what is the greatest difficulty in the way of agricultural improvements, I should answer it is the attributing of results to wrong causes, and drawing erroneous conclusions from experiments; to these mistakes must be owing the contradictions continually apparent in the opinions and examples of practical men, and the uncertainty that prevails on many points of practice, and it is against these errors I wish to warn any one who would test my assertion on the subject of thin sowing. By the time this paper can appear in the 'Journal,' many trials now in progress will have advanced sufficiently to try the correctness of what I have said, and I trust their

results will become generally known, for I have the fullest confidence that the doctrine I have advanced will prove correct, viz., that the quantity of seed to be sown should be only in proportion to the number of plants that the space will allow to mature, and that to apply more is a waste of seed, and an injury to the after-growth of the entire crop, attended at first with unnecessary expense, and at last with a diminished produce.—*Hewitt Davis, 3, Frederick-place, Old Jewry, London.*

PLANT WATERING.

As good potting is the first step in plant growing, so good watering is most assuredly the second; the former even when rightly accomplished and with the best materials may be defeated through want of skill in watering. Imperfect knowledge or carelessness in the due administration of this essential element kills more plants, or keeps more in suspense between life and death, than utter ignorance in all other matters relating to plant growing. Let us not imagine that because we have put a root to a plant, and placed it in a pot in the right way and in the proper kind of soil, that the object of our solicitude is accomplished, and that our duty is terminated; for the contrary is the fact, if we have ambition enough to desire our achievements to be admired or recorded.

It may be superfluous to state, that plants either suffer from too much or too little water; but it is not so to show that this is frequently the case in the same pot at the same time; that this an evil far more extensive in a general collection of plants than may be supposed, and a point opposed to good cultivation earnestly demanding our attention. When the surface-soil in the pots becomes dry, a careless hand adds at once a fresh supply, without ascertaining whether the soil, in which the roots are, at all requires it, and again on the other hand, the top soil frequently appears perfectly wet, while the bottom of the ball is as dry as dust. This is a most calamitous circumstance, and one of common occurrence, especially amongst newly-potted plants: When a plant is just potted, it should have a sufficient supply to penetrate every part of the ball, and then remain until another supply is positiveiy required, that is, till the ball has parted with the greater portion of its moisture and the plant is upon the point of flagging, the interstices being all filled with air as it should be. This air again requires to be driven ont by a fresh supply of water, thus keeping up a vigorous and healthy action by continual interchanges of air and water, but at the same time never allowing either of them to remain long enough to affect the health of the plant. Watering by "driblets" is the worst of all watering; it keeps the surface of the soil in a puddle, but never reaches the roots; the eye is thus deceived, and the plant is often dead before the cause is discovered. When a plant does not part with its moisture freely, like its neighbours, but remains in a wet state, it should immediately be inspected; for should a plant remain subject daily to the application of driblets of water for any time, death must of necessity ensue. One effectual watering, whether applied to plants in pots under glass or to those committed to the soil in the open ground, is not only of far greater utility, but much more economical than ten ineffectual supplies. There is no duty attending plant cultivation so difficult to perform as this, and to intrust it in careless and incompetent hands will certainly entail upon a collection of valuable plants positive ruin; for unless he who uses the watering-pot has some practical aquaintance with vegetable economy, and can discriminate so far as to act agreeably to the necessities and wants of the subjects committed to his care, he will always find himself a day's march in arrear. These necessities and wants, be it remembered, are not quite so apparent to the naked eye of the novice as they are to the keen and scrutinising vision of the ever-anxious, and hence ever-watchful, cultivator.

There is a kind of watering very comomonly performed in many places, which cannot, when valuable and choice plants are attempted to be cultivated, be too severely censured. This is the daily afternoon supply, which is given to every plant as far as time will admit, regardless of its requirements—at least, when this operation is intrusted to men of inexperience, which is but too common; and this kind of gardening goes on in many places for years. Plants die, it is true; but this is one of the unresolved mysteries in gardening, which, to some minds, is quite satisfactory, and enables them to account for the loss of plants by violent means. Finally, it has been asked, how often are we to water this or that plant, and the answer usually is, always when it requires it; let us, therefore, add, and with some earnestness, *never before.—Daro.—Gard. Chron.*

Almond Cheese Cake.—Put 4 ounces of blanched sweet almonds into cold water, pound them in a marble mortar, add a tea spoonful of rose water and 4 oz. loaf sugar and the yolks of 4 eggs beat fine. Work the whole till it becomes frothy, and then make a rich puff paste as follows: Take ½ lb. of flour and ¼ lb. of butter: rub a little of the butter into the flour, mix it stiff with cold water, and then roll out the paste. Strew on a little flour and lay over it in thin bits one-third of the butter; throw a little more flour over the bottom and do the like three times. Put the paste into tins, grate sugar over them and grate them gently.

For a Sore Toe with proud flesh.—Apply the filings of horn, till a cure is affected.

For the sting of a Bee.—Apply spirits of hartshorn.

THE HISTORY OF THE THRIFTY AND UNTHRIFTY.

BY A NEIGHBOR.

In the neighboring village hard by, there are two farmers of equal standing as regards honesty of purpose, benevolence of intention, and all the social virtues. They both mean to discharge all their duties to society, their families and friends, and it is only when we try them by their performances that we find any striking difference. But to mark their qualities more fully, and afford instruction through the successive progression of their parentage, youth and manhood, we must notice them distinctly in each.

Their Fathers.—They were both born in the village where they now reside, and of equally reputable parents. Both were farmers and respectable members of society. The same year that the father of Thrifty was sent to the General Assembly, the father of Unthrifty received the commission for the office of Justice of the Peace. There was a slight difference in their respective characters in only one particular. They were both "well to do in the world," as the phrase is; but while the elder Unthrifty had inherited all his property, a part of which he had already spent by his easy good nature and somewhat indolent habits, the father of Thrifty had been a poor boy and worked his own way in the world, and having married early in life, had brought up a large family, while the other had but this only son.

Their Mothers.—The greatest difference however in their parents, was in their mothers. Like her husband, Mrs. Thrifty was a poor child and an orphan, but had been "brought up" by a widowed aunt in habits of great industry, order, and economy. She was early taught to have a place for everything, and everything in its place; to waste nothing and spend no time in idleness; and when her work was done instead of sozzling away her time, playing with the kitten or her apron strings, or sauntering with Goody Tittletattle's girls, and gossiping about the young men, she devoted her leisure hours to reading useful books, or making up counterpanes, knitting stockings, and other articles that might be useful: so that when she had become one-and-twenty, she not only had her mind well informed, but had made up quite a wardrobe for herself, and had acquired so good a character, that Mrs. Thrifty thought, and rightly enough too, she was a very good match as a wife. Mrs. Unthrifty, on the other hand, had been indolently and indulgently educated, and always having enough on hand, without any necessity for looking out for herself, her parents "well off," she arrived at what ought to be "years of discretion," without any particular habits of any kind; yet being a pretty, amiable girl, withal, having a prospect of inheriting some money, Unthrifty thought himself a lucky dog in securing her as a partner for life.

Their Boyhood.—The boys went to the same district school, yet though Unthrifty was nearly two years the oldest, little Thrifty soon caught up to him in his studies, when being put in the same class, he easily got above him, and after that generally stood at the head, while Unthrifty stood at the foot. This was not owing to any want of cuteness on the part of Joe or Josey as he was generally called, for when occasionally when any prize was offered that Joe wanted to obtain, he would, by a little application, get ahead of all the boys and secure the prize; while Tom, as they called young Thrifty, would study with all his might without coming within arm's length of Joe. At hunting, fishing, or frolicking of any kind, which required ingenuity or skill, Joe was sure to be ahead of all his playmates. But then his habits were negligent, he was half the time late at school, his lessons given him over night not half learned when he got there, and he had very little idea of minding any of the rules; not that he was stubborn or bad tempered, but he "didn't see any use in sitting in his own seat for three hours together, and learning arithmetic, geography, and grammar, neither of which would help to tree a squirrel, hole a fox, catch a trout, or bring down a turkey at a shooting match." Tom was always punctual at school, always had his lesson learnt, though he had to work hard for it and always did as he was bid by the master, simply because his parents told him this was the only way to make a man of himself—and he believed them. Josey's parents indulged him as they indulged themselves, and let him take pretty much his own course as they had done before him, and it was universally believed had the boys swopped parents when they were babies, Joe would have been the smartest scholar of the two.

Grown up.—The boys got to be men while they still thought they were youngsters, and before they were three-and-twenty both were married to young women in the village, somewhat after their own character.

Their Wives.—Tom's wife was the daughter of a poor, but hard-working waggon-maker, and had always been accustomed to industrious habits; while the wife of Joe had received many more advantages in school, though it is said she had mis-improved them; but she could do worsted embroidery, draw pretty well from a copy, and play common psalm tunes, Yankee Doodle, and country dances, on the piano.

Their Occupation.—Tom took to farming as his father had done before him, and as he had nothing to begin with, he rented a small farm which his father helped him to stock. He had of his own, a pair of oxen, a few sheep, and some tools, which a couple years of hard service since he "came of age," had enabled him to purchase; and his wife besides had three good cows, given her by her mother, while her father gave him a good second-hand ox waggon. Tom and his wife went "right" to work. They were up by daylight in the morning, and by the time he had his "chores" done, the cows milked and turned to pasture, the oxen curried, fed, and yoked, and the pigs provided for, breakfast was on the table, so that he was ready to go out to his day's work by the time Josey and his wife had "turned out of bed."

In five years after he was married and went to farming, Tom had actually got "fore-handed" enough to buy a farm near him, which was naturally very good land, but had "run down" from the shiftlessness of the former owner; for which he paid $2000 in cash, out of his own earnings, which were pretty much all used up by the former occupant, in paying off executions and debts against him, and he had just enough left to carry him to Michigan, to begin the world at forty, when Tom began at twenty-one. A mortgage of $1000 still due on the place, he assumed to pay to the merchant in the village who had taken it some time before in payment of all old scores, including costs of some $200 which had accumulated against the debtor.

Josey had a first-rate farm, too, which had been given to him by his father, who also stocked it with all the horses, cattle, sheep and pigs Joe wanted, but Josey "some how or other," hadn't met with very "good luck," as he called it. Indeed 'twas sometime before Josey decided he would take to farming at all.

Josey's Professional Inclination.—His father and mother, before him, had been in a good deal of a quandary, whether their son, on whom they thought as all parents generally do, especially if they have but one, was not rather too good for farming. He used to loiter about the bar-room when his father tried the suits brought before him, and he had picked up a good many legal phrases from the smart young attorneys who used to spout there. He could tell what was a "cause of action," whether the "case should be brought as an action of *tort*, or an action of *trover*," or simply "as an action on the *case*." But though often thinking about it, and rather urged by his ambitious parents, he found so many hard words in looking into Blackstone, the "*Pons asinorum*" of all legal aspirants, that he concluded he would not attempt it. His friends afterwards thought it a great pity, as if he had only got into practice, the law would give him his fees, whether he rendered any service to his client or not. Other friends equall lamented he did not take hold of medicine, for which he at one time had quite an inclination, but from which he was deterred by an indolent and unsuccessful attempt at mastering the technical names of diseases and their remedies, in that horn-book of young Galens, the Dispensary; as they said, "if he only got a run of custom, he was sure to pocket his fees, as no man living could tell what kind of medicine he gives. If his patients got well in spite of the medicine, he was a first rate doctor, and if they didn't, 'twas the fault of the disease; and as to a trial for malpractice, it must be decided by the docters themselves, and if they gave it against him, they would be the losers, as it would unsettle confidence in the *profession*. But if he went to farming, and didn't plant and sow right, and do his harvesting at the proper time, or let his cattle die of disease or neglect, he would have to bear the loss himself, as the law didn't compel his customers, in that case, to pay him for what he didn't sell them."

In short, before they were thirty, Thrifty and Unthrifty had at last got on the same platform or level, for Tom had by this time paid up for his farm, and had it well stocked, and was entirely out of debt.

Thrifty's Farming.—But the see-saw did not stop when it brought them to this position, for Tom kept going up while Josey kept going down. His father could not help him any more, as he had only enough left to carry him and wife through the world, while Tom had the prospect of getting some money from his father's estate, who had lately died and left a snug property. But the great difference was in their own management. Thrifty's plowing was always done in the right time, his crops were in early, and they were harvested as soon as ready to cut; his manure was always carried out and spread on the ground; his orchards were well planted and grafted with the best fruits, and he soon had the choicest to sell, which being better than his neighbors, always commanded a high price, besides supplying his own family with all they could use. The orchard was indeed one of the most profitable things of his farm. His tempting ripe peaches, with bread and milk, made a luscious meal for himself and his little ones. The rich sweet apples and baking pears, when cooked without any addition of sugar or molasses, was "sauce" good enough for a king; and it is hardly going beyond the truth to say, that it saved him a barrel of pork a year, besides giving him a luxury which any one might envy. His garden was always the best, for he chose a good spot for it, manured it abundantly, had its seeds in early, and what was best of all, he usually spent a half hour in it with his hoe before the dew was off, by which he secured an early rapid growth; and his garden made up a third of his summer's living, besides giving good vegetables through the winter. His cows were well chosen, and well fed, and were another great help to his living. Besides this, his wife made butter and cheese enough to buy all the groceries, which did not come to much, as they made their own maple-sugar and molasses, and little tea and coffee, and no spirits or wine. His sheep have good fleeces and lambs. The last gave them choice mutton whenever they wanted fresh meat, and besides they occasionally sold some to the butcher, and having got a good name for fine lambs, they always brought a large price. His wife made her own stocking yarn, and home-made flannel, and put out the remainder of the wool on shares, to be worked into sattinetts, and fulled cloth, and flannel, so that their half not only furnished what they wanted for their own use, but gave them some besides to pay their hired men. His fences were always up, and he never suffered from the depredations of his own or neighbours' cattle. His children were punctual at school, and the whole family as punctual at church. All were neat and tidy, for Mrs. Thrifty was as busy and managing within, as he was without, and as he was to have been guessed, Thrifty made rapid progress in "getting on in the world."

Josey's Farming.—With Josey, or as we must now dignify him, Mr. Unthrifty, things were quite different. He was going down-hill while Thrifty was going up; yet he took it as easy as he used to do his whippings at school, and thought himself equally as little to blame now as then; in short, "it was all his luck," as he used to say.

His fences were seldom all up at the same time; and when they were repaired, which was never done till the last minute, they were just hitched together, so that the first unruly ox that came along, would tumble it over if he squinted very hard at the dwindled, stunted crops, growing on the other side. Indeed, the poverty stricken appearance of the crops more often prevented depredation than the fences themselves. He got up late, had his breakfast late, and never went out to work before he ate it. By this time the dew was off, and none of it was hoed into the ground, or moistened the grass to make the scythe cut easier. He plowed late, sowed late, planted late, and harvested late, but he had one great advantage in all this, for he had so little to gather, that it never took a great while to secure his crops; or if the storms, snow, or ice, did get them at last, he always consoled himself with the idea, "that really he hadn't lost much—they were hardly worth gathering." He had a very good orchard on his farm ten years before, thanks to the owner who preceded him, but the wind had broken off some of the branches, and for want of trimming, the broken and dead limbs had rotted down to the trunks, and made the bodies quite rotten, and the fruit itself had become stunted and wormy, and didn't bear any; and the few it bore, were only fit for the hogs, which, for the want of suitable attention, matched very well with the apples. These he had procured by years of breeding, peculiar to many of the farmers. He always killed the best pigs because they were fattest, and as soon as he got one into the pen that would not fat at all, he said she would have pigs just as well as any others, and 'twas a pity to save them, as they were worth something for pork. His sheep were neglected and got the scab. He consoled himself by denouncing the whole flock as a misbegotten race, and unworthy his regard, and turned them on to the common, where the dogs and crows soon removed both sheep and scab together. His cattle became poor from short allowance and want of attention, and as misery loves company, poverty was soon followed by lice, and thinking them too degenerate for the attention of a man of his expectations, he called them a lousy, drivelling race of Pharaoh's lean kine, and traded them off for anything he could get in exchange, old muskets, fish-nets, and a trooper's second-hand rig. His house was leaky, and wanted shingling, but in rainy weather he couldn't go out to do it, and when it was fair he didn't want it; so his wife was taken sick from damp rooms, his children had the scarlet fever, and he got a confirmed rheumatism which lasted him for life. As we have not room for any further particulars of the history of *Thrifty* and *Unthrifty*, the remainder shall be reserved for the *American Agricultural Almanac for* 1847.—*Extracted from the A. A. Almanac.*

Spring Work for Farmers' Wives.—Now is the time to see that everything appertaining to the spring-house or dairy-room is put in order and all needful repairs made at once. Stop up all holes, so that neither rat nor mouse can enter—get the gauze window fitted in to keep out the flies and insects which will soon be buzzing about—and see that the walls and ceiling overhead are thoroughly whitewashed. This may seem rather early work for our northern farmers; but the truth is, if we do not get it done this month, ten to one our husbands will be so busy the rest of the Spring, that they will not have time to attend to it at all. See that the churns, tubs, and pails, are bright and in order, and that plenty of wide, flat pans for setting the milk are got ready. The more shallow the milk are set in pans, the more rapidly will the cream rise, and a greater quantity in proportion to the milk will be obtained. When deep, narrow milk pans are used, considerable loss ensues from want of proper rising of the cream. Preserve plenty of calves' rennets for curdling the cheese, and see that the press is all right. Cheese is getting to be a very important export to Great Britain, and we may soon monopolize that market by paying proper attention to its manufacture among us. I conclude my homily with a hint for the benefit of all good husbands; and as I am a poet by nature, they will excuse my giving it in rhyme:

For work ahead prepare the way,
For this ne'er give your wife a nay;
You can't expect a harvest prime,
Unless you sow your seed in time.

DOLLY HOMESPUN.

—*Am. Ag.*

Film.—Perpaps all readers do not know the easiest as well as the most effectual remedy for removing a film from the eye of an animal. It is simply to apply a teaspoonful of molasses on the eyeball. I have relieved oxen, horses, cows, and sheep in this manner, and know of no other remedy equal to it.

FEEDING OF ANIMALS.

The determination of the relative nutritious qualities of food, from the proportion of azote which they contain, is far from being free from objection; it has a tendency to make the equivalents too low by overrating the quantity of animal matter. A very small part of the azote obtained by analysis may arise from the nitrates which occur in plants, and which are of no use as regards nutriment. This source of error is, however, in general, scarcely appreciable; but there are leaves and roots which, in certain soils, and those almost free from nitre, are extremely rich in nitrates. It is to this circumstance that I attribute the anomaly presented by the leaves of Mangold Wurzel. In estimating the azote, I confine myself to ascertaining the proportion of animal principle contained in any given nutriment. It is that principle which, though small in amount, it is most important to estimate, as beyond all doubt the relative value of different kinds of vegetable food depends on the degree in which it is present. The other non-azotized principles, such as sugar, starch, and gum, form the greater part of vegetable food, and almost always bear a large ratio to the azotised matter These substances are indispensable. In the process of digestion the amylaceous fecula is changed into gum and sugar, which are then directly absorbed. The fatty matter becomes divided into infinitely small particles, and thus forming an emulsion gives rise to the adipose tissue; the woody fibre, on the contrary, at least in the state in which it exists in plants, does not appear to conduce directly to nutrition; it is found almost unaltered in the excrement. These principles having been admitted, it is easy to perceive what is by no means a matter of indifference, that with a given proportion of animal matter, a certain larger proportion of starch, sugar, and woody fibre, should co-exist. The starch and other non-azotised substances concur evidently in the process of nutrition, whilst the woody fibre is simply inert, exercising merely a mechanical action, and either helping to divide the contents of the stomach, or serving as a sort of ballast. Hay and Potatoes, reduced to the same degree of dryness, contain almost the same proportions of azote, viz., 1.3 and 1.5 per cent., that is to say, about 8½ per cent. of animal principle. In dry Potatoes the remaining 91½ parts are formed almost entirely of starch. In hay, on the contrary, there is a very large proportion of woody matter in the residuum.

These facts will explain why, notwithstanding the same proportion of animal matter,* potatoes are really more nutritious than hay, on the probable supposition that the woody matter does not contribute to nutrition. To give then to one table of equivalents all possible precision, we must determine, for each kind of food, the quantity of organic matter which remains undigested. I do not, however, attempt this just at present. By the help of these new data, we should have for each kind of food three elements to enable us to compare its nutritious power, viz., the proportion of azotised matter; that of non-azotised matter, as sugar, gum, starch, and peetine; and thirdly, that it indigestible substance which must be allowed in the weight of a given meal. The determination of the azote does not enable us to appreciate the different non-azotised substances which enter into the composition of any kind of food, or rather it shows us, though not with rigorous precision, that these substances are the complement of the animal principle. This, it must be confessed, is an inconvenience in the method which I have proposed. But the inconvenience is not so great as might be supposed, because the nutritive powers of the azotised matter, which it is of the highest importance to estimate accurately, are incomparably greater than those of starch, of sugar, or oily substance, which exist without exception in vegetable food. I have chosen, as an example, hay and potatoes, because they differ as much as possible in their composition and nature; nevertheless, their relative equivalents deduced from their respective proportions of azote agree as nearly as one could wish. In fact, theory indicates 390 as the equivalent of raw potatoes, that of hay being 100; and after long-continued experiments on the feeding of horses, I do not think it would be prudent to substitute less than 280 lbs. of potatoes for 100 lbs. of meadow hay.—*Am. Ag.*

*Note.—It must be remembered that the author is speaking of the potatoes divested of their moisture.

Preservative Composition.—For a composition for coloring and preserving gates, roofs, and timber generally, from the weather, melt twelve ounces of rosin in an iron pot or kettle; and three gallons of train oil and three or four rolls of brimstone; when they are melted and become thin, add as much Spanish brown, (or red or yellow ochre, or any other color you like, ground as usual with oil,) as will give the whole the shade wanted. Then lay it on with a brush as hot and as thin as you can. Some days after the first coat is dried, lay on a second. It is well attested that this will reserve plank for years, and prevent the weather from driving through brick work.—*Monthly Visitor.*

Lemon or Orange Water.—Peel the outside rinds from oranges or lemons, pound it fine in a mortar, and pour boiling water on it, and cover close when cold; bottle for use as a substitute for essence.

Currant Ice Water.—Press the juice from ripe currants; strain it clear; to one pint of juice put nearly a pound of loaf sugar. When wanted for use, put to it ice water enough to make a pleasant drink. Grate nutmeg over, and serve. Or, it may be frozen like ice cream; for this, it should be sweet and rich.

FARMERS' CLUBS.

Wakefield.—At the late annual meeting of this Club their annual report was read, from which we make the following extracts:—At the meeting held Jan. 5, Mr. Charnock read a paper on draining and its immediate results to the agricultural interest, as well as its effects on the general condition of the people, which was highly approved of, and it was resolved that 100 copies be printed at the expense of the Club, and one distributed to each member. It was also resolved, "that viewing the formation of the Yorkshire Land Draining Association as an undertaking pregnant with the most important results to the agricultural interests, and to the community in general, the Wakefield Farmers' Club do highly approve of the principles and objects of that association." April 26.—Mr. Briggs then read a paper on the use of gypsum, acids, and other auxiliaries in producing fertility in land, which he illustrated by several experiments, showing that gypsum, acids, and burnt refuse of pit-hills, have the effect of fixing ammonia; and showed specimens of sulphate of ammonia produced by treating common stable manure and urine with sulphuric acid and with gypsum, and proved the presence of the same acid in the burn pit-hill refuse, as well as in water oozing from stacks of coal. He also exhibited and tested a salt of ammonia, being a sublimation or condensation of the fumes arising from burning pit-hills, which on being submitted to quick-lime gave forth a potent smell of ammonia. May 31.—Mr Briggs volunteered a paper on the best mode of managing fences. He gave it as his opinion that the common thorn formed the most effectual and economical fence; and recommended that the thorn plants should be at least five years old before planted; that a trench should be first dug, about 18 inches deep, and the width of a common garden spade, in which 4 inches thick of good rotten manure should be laid and covered with the top soil. Then cut the plants and set them 4 inches apart in a single row, leaving about three inches of the stem out of the ground. Afterwards cut or clip the shoots made in the first year, both at the sides and within 10 inches from the ground, and perform the same operation each succeeding year, in the winter or early in the spring, leaving the fence 6 inches higher at each dipping, by which means, in about eight years, a thick and impervious fence of upwards of 4 feet in height, will be obtained. With regard to reclaiming or renovating old struggling thorn-hedges, Mr. Briggs recommended that old stems should be nicked and laid in a trench dug along the line of the fence, and in parts covered with soil; by which means the old buried stems will take root, and put up vigorous young shoots, in a continuous line, and in a few years will form a good hedge, by adopting the same process of annual clipping as recommended with respect to the young fences. Mr. B. also recommended that no living stems should be left as stakes, but that all, not wanted for laying, should be cut down to the ground, by which means a thick bottom would be obtained. June 28—Mr. Brakenridge read a paper on the causes of failure in clover crops. These causes, he suggested, might arise—1st. From the exhaustation in the soil of the food upon which clovers chiefly depend; and this may in some degree arise from clover being too frequently sown upon the same land; or on old going land, frequently fallowed, it may arise from the working out of the soil, or down into the substrata those constituents, the combined action of which is to disengage and volatilise those gases which are the chief food of clover. 2nd. It may be attributed to the careless manner in which clover seeds are too frequently sown upon fallow wheats, without any previous preparation; by which much of the seed is lost in the deep fissures, or destroyed by the heat of the sun, or by cold and wet. 3rd. From turning in young beasts or sheep to depasture upon the young clovers in the autumn of the first year, by which plants are so weakened as to be unable to stand the frost, wet, and cold of the succeeding winter. 4th. From the luxuriance of the corn crops under which the clover has been sown, by which the plants of young clover are drawn up and weakened, and left with slight root-hold. Remedies suggested—1st cause:—Application of lime or gypsum in the calcinated state, potash, and sulphuric acid; ploughing deep every time the land is fallowed, so as to bring up a portion of the subsoil, to be pulverised and incorporated with the surface soil by atmospheric action and culture; laying clay upon, or drilling clay ashes into very light soils. 2nd cause:—Harrowing before sowing the clover seed, so as to fill up the fissures, and prepare a bed of fresh mould in which the seeds can vegetate. Rolling after sowing, except in open barley moulds, which should be also rolled before sowing. 3rd and 4th causes: Abstaining from turning in stock upon clovers in the autumn; and rolling with a sharp roller, that is, a heavy roller of small diameter. Subsequently a variety of opinions were expressed by the members present; all agreeing that rolling is one great means of preserving the young clover plant during winter: in confirmation of which it was stated that on those parts of the field over which the carts, in leading the corn crop, have most frequently passed, there the clover has afterwards been observed to be the best. The majority of the members seemed to incline to the opinion, that clover could not be grown to advantage more frequently than once in eight years; but some others, amongst whom were Mr. Charnock and Mr. Briggs, maintained that by the application of potash, lime, salt, and gypsum, (which contain the chief mineral constituents of clover, and therefore yield the necessary food for the plant) in addition to the means recommended by Mr. Brakenridge, its successful growth might be obtained every four years. Aug. 23.—Mr. Charnock then proceeded to read his paper on irrigation and its benefits, in which he brought forward various instances of the wonderful results of irrigation, when properly and scientifically

conducted, especially in producing a luxuriant and rapid growth of grass, which might by this means be cut three or four times during the year. Amongst these he mentioned the Edinburgh Pleasance Water Meadows, General Hamilton's Meadows, near Hamilton, in Lanarkshire, and the Duke of Portland's Water Meadows, in Nottinghamshire;—and suggested that the same good results might easily be obtained on the Ings below the fair ground, Wakefield, by making use of the water in the Balne Beck, which contains much fertilising matter, derived from the sewers, dye-houses, &c., above. In the course of the ensuing discussion, it was unanimously agreed that irrigation is a very desirable proceeding, when and where practicable; but that in all cases when the land is in any degree retentive of water, it must be absolutely necessary to drain it thoroughly, previous to adopting the process. Oct. 25th.—Mr. Johnson verbally introduced the subject for discussion:—On the best mode of sowing wheat, and the quantity per acre. He recommended drilling wherever it is practicable; and stated that he generally ploughs his clover leys only 3 or 4 inches deep, then rolls with a heavy roller, and harrows lightly, and afterwards drills from 2 to 3 bushels of seed per acre, varying the quantity according to the quality of soil and other circumstances, but never sowing less than 2 bushels. He recommended this mode of sowing clover leys, (to which his observations were chiefly confined) in preference to pressing and sowing broadcast. Mr. Charlesworth maintained that never less than 3 bushels ought to be sown; that he had found it answer on his farm, and had much rather find it necessary to harrow up part of this crop in spring if too thick, than have too thin a crop. That he should much prefer a crop that he could smile at, than one which the world would laugh at. Mr. Moore was of opinion, that on good land, 1½ bushels of seed is sufficient, as he had found on his own farm; and that even less seed will answer in favorable seasons and under favorable circumstances. He drills all his wheat, and is now sowing 12 inches apart. Mr. T. Wood much recommended ploughing in the wheat, or what is commonly called ribbing, and applying about 2½ bushels of seed per acre. The result of the discussion was a resolution to the effect, "that in the opinion of the meeting, generally from 1½ to 2½ bushels of wheat, according to the quality of land, is the most advisable quantity to be sown per acre."

In the course of the evening, Mr. Charnock gave the following illustration of the usefulness of science in the improvement of art; mere practice, without sound theory as its guide, never attained anything worth notice. Disregard not then entirely as theoretical and impracticable what you may hear or read. And by way of illustrating what I mean, permit me to give you one of the most remarkable instances (and that too in the manufacturing world) of how far the opinions of practical men, when opposed to science, are to be relied on. So recently as about 15 years ago, in the spinning of linen yarn it was considered very fine if it reached to about 5 lbs. for 20,000 yards; and consequently all the yarns from which the finer linen fabrics were made, both in this kingdom and on the Continent, were spun by hand, at a cost of course commensurate with the labor and time required. Some of our more scientific spinners, however, got an idea that it was practicable to spin this fine yarn by machinery, and after some consideration they set to work—partly succeeding and partly not;—science and perseverance, however, daily overcame the obstacles; and the result is, that at this day, and for some years past, the whole of the fine yarns used in this kingdom, and nearly the whole of those manufactured on the Continent into cambrics, &c., are spun in this country by machinery, and the amount exported has risen, within the period I have named, from nothing to something like a million sterling; and it is now an every-day process to spin linen yarn, by machinery, as fine as ½ lb. for the 20,000 yards. Now all the ordinary spinners of that day, and who prided themselves on being practical men, declared that it was utterly impracticable ever to accomplish such an end; for said they (and the reason was plausible and practical enough,) so fine a thread will never hang together with the speed and vibration of machinery: the result, however, has shown how very far they were mistaken. So much for practical men and improvements. But, gentlemen, do not let me be misunderstood; far be it from me to despise practice—"practice with science;"—it is the abuse, and not the use of it, which I would guard you against; we may all live and learn, and the man who thinks himself perfect, depend upon it, is the greatest of fools.

The following interesting observations were made by Mr. Briggs, the hon. Secretary of the Club. He said, that in his opinion much less capital and labor are generally expended upon the land than ought to be—that nothing is more grateful than land when well treated—and that the agricultural resources of the country might be vastly increased were more labor expended upon the soil. He said that a great mischief was farmers occupying more land than their amount of capital entitled them to hold, by which means the country generally suffered by its best resources not being so fully developed as they might otherwise be; and he instanced the tenant on a farm which his brother has lately purchased in Monmouthshire, who, with nearly 200 acres of chiefly arable land, employs regularly only himself, his two sons, and three horses; the consequence is, that though the soil is excellent and very productive when properly cultivated, the crops are miserable, and the tenant in distress. Such mismanagement may truly be said to be a national misfortune. Mr. Briggs afterwards reverted to a paper which he read some months ago before the Club, on growing wheat successively on the same land; and said that no doubt many experienced farmers had smiled at and ridiculed the idea, but the more he thought on

the subject, the more he felt convinced of its feasibility. To show that he was supported in the idea by high authority, he mentioned that a friend of his, who attended the late meeting of the British Association, held at York, and had obtained an introduction to Liebeg, had mentioned to him what Mr. B. and his partner were attempting—that is, in successively growing wheat: "Oh," said he, "they will certainly manage it, if they restore to the land what they extract." Mr. B. also read a letter from the celebrated chemist, Professor Brande, in reference to the same subject, from which the following is an extract:—"I am glad to find you setting the useful example of combining theoretical and experimental with common practical agriculture. I am quite certain that if you persevere in this plan you have suggested you must ultimately arrive at the very important results. It appears to me absurd to say that it is impossible to cultivate the same crop upon the same soil for a succession of years. I have not the least doubt that it can be done, and will be done; and although I am not so sanguine as some upon the subject of chemical agriculture, and do not expect that its apparent progress will be so rapid as some have anticipated, I am convinced that much has been done, and that much is now doing, towards collecting materials for the foundation of gigantic improvements in the most ancient and most important of all the arts, and one, the scientific bearings of which have been so unaccountably misunderstood and neglected. It may require many years before great things are achieved, but I think that the march of science in that direction has now seriously been begun, and I cannot help surmising that the rotation of crops will bye and bye give way to systems of the kind you are now speculating upon, and take their place among the vulgar errors of the present age." As a corroboration of the practicability of the plan, Mr. Briggs mentioned that Mr. Holt, of Horbury, had grown wheat on the same land for 23 out of a series of 25 years, and had obtained crops yielding never less than 39 bushels per acre.—*Eng. Ag. Gaz.*

Smoking Hams.—We are assured by an intelligent farmer that hams are very effectually preserved from the attacks of the fly, while their quality is not at all injured, by throwing red pepper upon the fire in the smoke house, during the latter part of the operation.

Test for Pure Tea.—Make your tea as usual, then pour of the first, filling up with water and instead of replenishing the teapot for a second cup, turn out the leaves on a plate. If they are the real tea, they will retain their usual color, but if they are sloe or ash, or any other such production, the false coloring matter will have been carried off in the water, and the leaves will remain quite black.—*N. Y. Mechanic.*

Parsnip Wine.—Wine made of parsnips approaches closely to the malmsey of Madeira, and is made with very little expense or trouble, and is wholesome and palatable.

To every 4 lbs. of parsnips, clean and quartered, put one gallon of water; boil till quite tender; drain them over a sieve, but do not bruise them, as no process will clear the liquor afterwards. Pour the liquor into an open vessel, and to each gallon add 3 lbs. of sugar, and an half an ounce of cream of tartar. When cooled to about blood heat, put a little new yeast, or emptyings, let it stand four or five days in a warm room, then put it into a cask, and when the fermentation has subsided, bung tight, and let it stand 8 or 12 months before using.

The months of April and May are the best for getting a good fermentation; and in these temperance times it is an experiment worth trying.—*Am. Far.*

Hoof Ail and Sore Teats.—Cows as well as oxen are liable to the hoof ail. On the treatment of this disease, in connexion with that of sore teats, a writer in the *Western Farmer* remarks:

"Both these diseases are early cured by the application of white paint laid on with a small brush; the body of the paint acting mechanically in preventing the action of the air on the sores, and the lead operating mechanically or medicinally in drying and healing them. Care must however be taken not to apply the lead to the teats while they are sucking calves; and afterwards caution must be used at the time of milking, but no danger need be apprehended in the hands of careful persons. In inveterate hoof-ail it might first be necessary, either to cauterize the sore, or dress with blue stone, after which, and in all slight affections, white lead dressing—in other words painting the sores, will be found sufficient to effect a cure."

A Dry or Convulsive Asthma.—It is said that the juice of radishes is good in this complaint. A small dose of castor oil, taken occasionally, will be found beneficial; or new milk drunk morning and evening. Other remedies are recommended, such as garlic, saffron, ipecacuanha.

Potato Rolls.—Take five middle size potatoes—boil, peel, and mash them. Then rub the mashed potatoes through a sieve. To each potato, allow a pint of sifted flour; a table spoonful of strong fresh yeast, a gill of milk-warm water, a salt spoon of salt, the yolk of an egg, and a bit of fresh butter, about the size of a large hickory nut. Mix together the flour, the mashed potatoes and the salt, in a large broad pan. Make a hole in the centre of the mixture, and pour into it the yeast mixed with the w rm water. Sprinkle a little flour over the top, and mix in a little from round the sides of the hole. Cover it with a clean towel, and over that a flannel, and set it near the fire to rise. When the dough is quite light, and cracked all over the surface knead in the yolks of eggs (having first beaten them well) and also the butter. Then divide the dough, and make it into long shaped rolls. Cover them, and set them again to rise in a warm place. When perfectly light, lay them in a pan sprinkled with flour, and bake them well. They are best when quite fresh.

Valuable and Simple Medicine.—When food is taken that causes oppression, the best remedy is hot water in which the rind of old cheese has been grated, to be drank freely. This simple remedy ought to be in the possession of every family, as it will generally afford speedy relief. Some fifty years since a young lady died in this town, from the effects of eating fruit. A post mortem examination was had, and some experiments were made—nothing was found to have so good an operation upon the contents of the stomach as the grated cheese rind. Soon after another lady was placed in a similar dangerous situation from the same cause. Her medical attendant prescribed the above remedy, and immediately relief was obtained. The medicine became popular with the past generation, and a lady of that age wishes us to publish it to this, and succeeding generations. —*Portsmouth Journal.*

Another Use for India Rubber.—An English paper says that caoutchouc is an excellent remedy for toothache. After the cavity of the tooth is cleaned, a piece of caoutchouc is put on a wire, and being softened in the flame of a candle, is pressed while warm into the tooth; thus the air is kept from the nerve, and the cause of toothache removed.

Honeing Razors.—We notice that soap and water have been highly recommended (in place of oil) to be used upon hones in setting razors and other steel instruments. It is some years back that the trials of it were first made in England, but from the certificates given of its superior cleanliness and efficiency, it would seem desirable that it should be generally adopted.

Sponge Biscuits—Beat the yolks of 2 eggs for half an hour; then put in 1½ lbs. of grated loaf sugar, and whisk it till it rises in bubbles; beat the whites to a strong froth, and whisk them well with the sugar and yolks, then work in 4 oz. of flour with the rinds of two lemons grated. Bake them in tin moulds buttered, in a quick oven, for an hour; before they are quite done sift a little fine loaf sugar over them.

Stump Lifter.—What is the best kind of machine for taking out stumps? Many contrivances have been got up for the purpose of clearing fields of stumps. One of the most common in this section is the wheel and axis, mounted on high posts so as to lift the stumps up. *The Albany Cultivator* has a cut of one which it says cost $300 or $400, and which has cost the inventor, first and last, $10,000, to bring to perfection. This appears to be an excellent machine, but although it requires but a single horse to pull up a stump of the largest rate, yet it costs too much for "these diggings."

We have seen the following very simple plan of stump clearing, adopted with good success.

Take a strong, stiff, hard wood stick of timber, say fifteen or twenty feet long and six inches in diameter. Cut around the stump and take of some of the roots. Then place the timber upright against the stump, and chain them together strong. From the upper end, which is now in the air, let the chain pass to the axle-tree of a pair of cart wheels, to the tongue of which a pair of strong oxen are attached. When all is ready, start the oxen along, and the stump "*keels over*" as easy as you capsize a cabbage in a garden.—*Maine Farmer.*

SWINEY—OR DISEASE OR STRAIN OF THE SHOULDER.

This is an affection not uncommon, but yet little understood. If of recent occurrence it will be seen that the shoulder is *swelled;* if of long standing, that the shoulder is *diminished* in *size*, the muscles having shrunk away. The shoulder is frequently shrunk when there is no disease in it. This shrinking arises from disuse of the muscles. To retain its full volume a muscle must have constant action. Now, disuse of the muscles of the shoulder may arise from two causes. 1st, lameness of the foot or leg; 2nd, lameness of the shoulder. If it arise from the foot, no treatment is necessary for the shoulder. It may be easily known if it proceeds from the foot. In such case the horse, when he moves, lifts his *foot clear from the ground;* and when he points his foot forward, he places it flat on the ground. If the injury be in the shoulder, when he moves he *drags the toe of the foot along the ground*, seemingly unable to lift it clear; when he points his foot out, his *toe* only rests on the ground, not the sole of the foot. If the injury is in the shoulder the horse reluctantly turns his head towards the opposite shoulder; this strains the muscles: but he will willingly turn his head toward the lame shoulde , as this relaxes the muscles.

The common causes of shrinking or swiney of the shoulder, when it arises from the foot or injury to the leg below the shoulder, are all the diseases of the foot and leg, which continue long enough to occasion such a disease of the muscles of the shoulder as to occasion their shrinking. Such diseases are foot founder, contraction of the foot, strain of the navicular joint, ring-bone, pumiced foot, sand crack, quittor, gravel, any separation of the foot, in short, any of the various diseases of the foot which induce the horse to favor it, and thus use as little as possible the whole leg and shoulder.

The shrinking of the shoulder, where it arises from an injury in the shoulder itself, has but one ordinary cause, viz., a strain of the shoulder. When there is strain of the shoulder, it is known at once. Within a few hours after its occurrence the shoulder is swelled, perhaps in its whole length, but generally at the lower end. The strain lies almost always in the muscles which attach the shoulder-blade to the body; yet the swelling is on the outside; but this arises from sympathy.

When the horse is observed to be lame, and it cannot at once be determined where the lameness is, let him be walked, and if *he drag his toe*, it is in the shoulder. Let the shoulder be examined in front; if the affection be of long standing, the shoulder will be seen to be less than the other. If on feeling it, it be found to be free of heat, there will be no fever. The disease is then chronic. If, however, the shoulder be enlarged, it will be found, on feeling, to be hot—the injury is then recent and inflammatory. Where the disease is in the shoulder, and is chronic, it has gone through the inflammatory stage, and is of some considerable standing. The chronic state is rarely cured. It is not unlike rheumatism. For the *chronic state* the best remedy is active *blistering*. This will rouse the vessels to activity. It may be necessary to blister repeatedly, and exercise should accompany the blistering, with good grooming and general care. Let the exercise commence as soon as the blister begins to diminish its discharge. This treatment, continued judiciously and energetically for some time, may cure *chronic* disease of the shoulder. When the strain is recent, and inflammation exists, the horse should be bled from the neck and from the plate vein on the inside of the leg, as near the body as possible. Rest, cooling physic, both purgative and sedentary, should be given —*no blistering* should be allowed. Embrocations of a cooling nature should be applied. No *stimulants* should be applied externally, or given. They but add to the inflammation. When the inflammation is subdued and the shoulder has fallen back to its natural size, the horse needs nothing but rest, with gentle exercise. Let him be turned out, if in the summer, to grass; in the winter, into a small yard in good weather, and a loose box at night in bad weather. It will take him some time to get over the effects and be fit for work again.

When the shoulder is shrunk or swineyed from lameness in the foot or leg, below the shoulder, no attention should be paid to the shoulder. When both feet or legs are diseased, so that the horse seeks to relieve each alternately from pressure, both shoulders will be swineyed; they will be both shrunk, and the breast in front will be diminished and fall in. Treatment in these cases is to be addressed to the place of disease. If in the feet, cure them; if in the legs, cure them. Some diseases in the feet cannot be cured, and, of course, if there be swiney from such cause, it cannot be removed. When the feet and legs are cured, and the horse recovers thereby his wonted action, the muscles of the shoulder will by exercise, recover their former size, and the swiney be gone.

Among the ignorant there is a variety of remedies for the swiney, as pegging (that is thrusting a knife in the shoulder and blowing in stimulating powders), swimming, setons, &c. A recent writer in the Southern Cultivator says, "introduce the small blade of a common pocket knife (the point of which must be sharp), into the thinnest part of the shoulder, which will be near the upper margin of the shoulder-blade, holding the knife as you would a pen when writing, and scratch up the membrane that covers the bone for a space the size of a silver dollar; the knife may be then withdrawn. The knife may then be introduced in one or two places below the first, and used in the same way, and the operation is over." Now, if the disease be in the shoulder, this method can only cure by rousing the vessels to action. Blistering will do this better, and is more humane and less dangerous. Wounded membranes frequently produce fatal inflammation. Blistering is never dangerous in chronic affections, and

therefore is preferable on that score, and by general action does far better. It is done within two days. Scraping the membrane cannot be through its operation short of weeks.

A. Stevens.

Buffalo, Jan. 1845.
—*Am. Ag.*

CULTIVATION OF THE GOOSEBERRY.

The tendency to mildew which attends the greater portion of our most valuable Gooseberries, has in a measure deterred many admirers of this most excellent fruit from pursuing its cultivation with that interest which otherwise they would give to it. That what we have to say, will if pursued, prove infallible in the successful growth of this fruit to perfection, we cannot avouch; yet we are ready to state that in our judgment as good fruit can be grown of the Gooseberry in this climate as in any other. Let us, at first, glance at the manner in which the bushels are usually grown, and that too in some gardens where we thought the cultivator *should* understand their cultivation. We find them placed in some portion of the ground where they are fully exposed to the sun and at the same time sheltered from a free current of air; the bush if cultivated at all, is grown with the branches forming at say six to eight inches from the ground, and in hard showers after a drought the fruit and branches become covered more or less with the earth bespattered by the fall of water. Very little, if any attention is paid to affording nourishment, essential to the formation of good berries in common soil, in shape of liquid manure.—Attention to pruning is seldom, if ever given to them, indeed it is generally thought that nothing is required to obtain the fruit except a tolerable soil. This is from the fact of the shrub being very hardy adapting itself and in almost any situation making wood and presenting a tolerable healthy appearance.

Permit us now to offer our opinion regarding their culture: first, select a soil neither stiff clay, nor loose sand, but of good, rich, deep mould, in a position where the midday sun will never reach. Plant your bushes three foot apart each way, train them into heads at least two feet from the ground, let the head be formed nearly round and open.

After the head is once formed, attend to the bush, from the time the blossom shows itself until the fruit is ripe, and whenever a branch is pushing forward to make wood nip the end with the finger, thus throwing all the juices into the formation of the fruit, beside keeping the bush more open to the air; with the hoe dig well among their roots, being careful not to break them but yet to keep the earth loose and moist. As often as once a week from the time the fruit sets until ripe bestow a watering of liquid manure upon the soil, and use the hoe directly after it In pruning let it be borne in mind that the Gooseberry produces fruit on the wood not only of the preceding summer's growth but also on spurs from old wood. The wood of the last past year however producing the larger berry, if possible to preserve a rightly formed head, it should be so done; no bearing wood branches should be nearer, than six inches of each other, and the shoots should never be more than twelve buds in length. Where old bushes have long remained, if not convenient to transplant to another position, (and for this year the season is now too far advanced) take away the earth from about the roots and shorten in all the larger ones by cutting to at least one foot each in length, this will cause them to form new spongioles in great numbers and if the dressing of liquid manure is given as directed, they will afford a vast increase of nourishment to the plant. Should any appearance of mildew become visible, sprinkle the bushes with weak lime water and scatter lime and sulphur underneath upon the ground. If your bushes are now placed where they are fully exposed to direct heat of midday suns, erect some temporary shade, or plant running beans and train them up as shades.

The origin of the name Gooseberry has been accounted for in various ways, and the number of names by which it is known throughout Europe shows that it has been long and extensively cultivated. Rogers says that, "in some counties in England, it is called faberry, in others frabes, or thapes, while yet in others it bears the name of Carberry, in Scotland it is called grozer or grozet, evidently a curruption of the french name groseille. One writer thinks it derives its name from having been used as a sauce for geese while green, another from its resemblance to the gorse, or whin bush." It is a native of most countries of Europe, and is found wild in many parts of the United States.

The number of varieties are now increased to several hundreds, yet in 1743 there were but six or seven sorts admitted as valuable. In Lancashire, England, their cultivation is a matter of great import, and regular shows of Gooseberries alone are held; with us it will probably never become a fruit for extensive market culture, but on a small scale with attention, we think, it can be made to produce fine and perfect fruits.—*Cleveland Hor. Mag.*

To make Whale-Oil Soap for washing Fruit Trees.—Take 18 lbs. potash and 30 lbs. of foot oil and put in a barrel. Every other day pour upon the mixture 18 quarts boiling water, stirring it every day for a few minutes. When the barrel is filled up with water the soap will be fit for use. Now put about 4 gallons of soap into a hogshead of 150 gallons of water, and apply the suds to the trees by aid of the garden engine. This application is one of the best destroyers of insects known, and at the same time it is an excellent stimulant to the growth of all vegetation.

CROPS REQUIRE TO BE FED AS WELL AS ANIMALS.

(From the Ohio Cultivator.)

In the first settlement of this country, the domestic animals found food growing spontaneously, in the prairies and forests, and they lived almost entirely without the aid of their owners. As the country became more populous, and the animals had greatly increased, this spontaneous food became exhausted, and they had to be fed by the hand of man.

When the soil was first reclaimed from the forest, the *crops* obtained *their* food, for a number of years. from the abundance of *vegetable* matter which had been accumulating in the soil, as well as from the inorganic substances, which had been brought there by natural causes. But in a few years, by a constant drain upon the soil, without making any recompense, this spontaneous food, which nature had provided, has become principally exhausted; and it is now as much the interest of the farmer to feed his crops, as it is to feed his animals.

"I do feed my crops," says the *Practical Farmer*, "I haul out stable manure and straw, and I sometimes plow in clover, and put my land in first-rate order, before I sow my crops."

"Very well," says *Science*, "this is all right, so far as it goes, and I grant one in a hundred may do this; but I should like to be able to make this statement in "inverse proportion," that there shall be but one in a hundred who does *not* do it."

"But, *Mr. Practical Farmer*, there is another matter connected with feeding your crops, that I wish to press upon your attention, which is this, —It is as important to feed your *crops* with the kind of food *most suitable* to their "digestive organs," as it is that of animals. Did you ever think of this? We do not feed hogs on hay; neither do we give pork to our horses; but we are, nevertheless, careful to give *enough* to keep them alive, and to cause the animals to thrive and increase, and, at the same time, we avoid giving them so *much* as to surfeit or founder them."

"After all the pains I take," says the *Practical Farmer*, "I cannot raise good wheat; when I sow it on my land without manure, it is struck with rust; the berry shrivels, and I do not get half a crop. And then I go to carting on manure, and my wheat all goes to straw, falls down flat on the ground, and has no grain worth the labour of saving; and so I turn my hogs into the field to get what few grains they can find. It is useless for me to try to raise wheat on my farm; it is either too rich or too poor. If I put on manure, the straw grows too rank, and is too weak to stand up; if I sow without manure, the *heat* and *moisture* makes it with rust. I must go to raising some other crop."

"Stop, neighbour," says *Science*," here I have a book that will tell you something about raising wheat. I think it probable that you have been feeding your hogs on hay, or else you have been giving pork to your horses."

Prac. Far. Och! go away with your *book*. Do you think I want any of your *book farming* about me? I have been a *practical farmer* all my life, and in *early times* I used to raise the best wheat in the country, without *manure* or *books* either. Do you think that I don't know how to raise wheat?

Science. Will you read it?

Prac. Far. No. It is so seldom I read, that it is quite a task for me to read a book.

Science. Well, will you listen while I read?

Prac. Far. I have not time to stay long, but I have no objection to hearing you read a little; it won't *cost anything*, will it?

Science. If you will listen attentively, I will read you a few lines with pleasure:—From each acre yielding 25 bushels of wheat, there is extracted from the soil, in the grain, 3.3 pounds of *potash*, and in the straw, 0.6 of a pound.*

Prac. Far. What! does wheat contain potash?

Science. Yes. And the 25 bushels of wheat will also take from the soil, in the grain, 3.5 pounds of *soda*, and the straw, 0.9 of a pound.

Prac. Far. Ah! Does wheat contain soda too?

Science. Such an acre of wheat will also take from the soil, in the grain, 1.5 pounds of *lime*, and in the straw, 7.2 pounds.

Prac. Far. Oh, yes! I have heard of people putting lime on their land, but I never thought enough of it to try it myself.

Science. The 25 bushels of wheat also take from the soil, in the grain, 1.5 pounds of *magnesia*, and in the straw, 1 pound.

Prac. Far. Why, I have heard it said that magnesia is injurious to crops, and that when farmers apply lime to their land, they should be careful to use that which does not contain magnesia! But go on; is there any thing else in wheat? I can't stay much longer.

Science. In an acre of wheat yielding 25 bushels, there is in the grain 6 pounds of *Silica*, and in the straw 86 (eighty-six) pounds.

Prac. Far. Now I'm stumped! What on earth is *Silica?*

Science. The book says it is the substance of *flint*, or pure *sand*.

Prac. Far What! the substance of flint or sand in wheat! Pray, Mr. Science, how does it get there?

Science. You know that sand can be melted, as is done in the manufacture of glass, by the application of heat with soda and other chemical substances; and this book tells us that it becomes soluble in water, by the aid of the potash and soda before mentioned; and when thus dissolved,

* NOTE.—The weights here given are in pounds and decimal fractions. thus, 3.3 is three pounds and three-tenths of a pound, and 0.15 is fifteen-hundredths of a pound. It may also be remarked, that the language here used is not taken from the book alluded to by the writer; only the substance is obtained therefrom.

it is taken up by the roots of plants. But I have not yet got through with the component elements of wheat!

One acre of wheat, yielding 25 bushels, also contains, in the grain, ¾ pound of *sulphuric acid*, and in the straw, 1 pound.

Prac. Far. Why, this is oil of vitriol is'nt it?

Science. There is also taken from the soil, by 25 bushels of wheat, in the grain, 0.6 of a pound of *phosphoric acid*, and in the straw, 5 pounds: also in the grain, 0.15 of a pound of *chlorine*, and in the straw, 0.9 of a pound. This is all, and you must remember these are inorganic substances, such as do not grow like vegetables, and therefore they must be extracted from the soil. The total amount of these inorganic substances taken from one acre of ground, yielding 25 bushels of wheat, and including the straw, as it is usually cut by the cradle, is 120 pounds. Three fourths of this is silica, which is rendered soluble by the alkalies, potash, soda, and lime, thus showing the great importance of these substances in soil producing wheat.

Prac. Far. Well, I declare I did not know that wheat had so many things in it. I always *thought* that wheat grew out of the ground, and got its food from the vegetable manure that was contained in it, or was put there by the farmer.

Science. Well friend, you knew before by sad experience, that vegetable manure *alone*, would not raise wheat; for you say that when you put manure on your land, your wheat all went to straw, which was so weak that it fell down flat on the ground, and had no berry in the heads; and when you sowed your wheat without manure, it was struck with the rust, and the grain shriveled, so that you got not more than half a crop. Now you see that this book has told you some things that you did not know before, and which perhaps you never would have found out by your own efforts, without calling in the aid of science.

Prac. Far. Well, if the wheat plant contains all these substances, and they are all extracted from the soil, how are we *practical farmers* to know when they are not present in the soil? and above all, how are we to obtain all this potash, and soda, and lime, and flint, and sulphuric acid, and phosphoric acid?

Science. The failure of your wheat crop for a series of years is pretty good evidence that *some* of these substances are wanting in the soil, but it will not decide which. The only way to determine which one of the foregoing substances may be wanting, is to call in the aid of *science*, and have a correct analysis of the soil made. But, nevertheless, by the nature of the disease that affects the crops, we may be able to judge more correctly of the substance that may be wanting. When the straw is weak, and not able to stand erect, it may be certain that the alkalies are wanting to produce the silicates which are deposited in the stem, to give it strength and firmness. This book, however, will tell what substances you must procure and apply to the land, which will supply the ingredients contained in the wheat plant.

Prac. Far. I should like to hear something more about these matters.

Science. This book gives an account of the component ingredients of wood ashes. It says that "ashes always consists of a mixture in variable proportions of carbonates, silicates, sulphates and phosphorates of *potash, soda, lime* and *magnesia*, with certain other substances present in smaller quantity, yet more or less necessary, it may be presumed, to vegetable growth." "But they contain also, a greater or less quantity of imperfectly burned carbonaceous matter," or charcoal. Here you will perceive that you have nearly all the substances, at once, of which the wheat plant consists. It would seem then, that if ashes be mixed with the soil it will supply the greater part of the substance of wheat. Did you ever think of this before?

Prac. Far. I have heard it casually remarked that ashes were useful, sowed upon wheat; but I never gave the subject much reflection, and therefore it did not strike me very forcibly. But does your book tell any thing about the action of lime? I feel somewhat anxious to know this, for I have limestone on my farm, and I have a mind to try it.

Science. Yes, this book gives an interesting account of the beneficial action of lime upon soils, and sums up its conclusions as follows;

"Lime improves the quality of almost every cultivated crop."

"It supplies a kind of inorganic food, which appears to be necessary to the healthy growth of all cultivated plants.

"It neutralizes acid substances, which are naturally found in the soil, and decomposes, or renders harmless, other noxious compounds, which are not unfrequently within the reach of plants.

"It changes the inert vegetable matter in the soil, so as gradually to render it useful to vegetation."

Prac. Far. It appears then, that lime is useful to vegetation in *other* respects than in furnishing this ingredient to the plants.

Science. There are a *variety* of other substances discribed in this book, which are usefully applied to vegetation, both in ameliorating the soil, and in furnishing specific substances to the growing crops. But it will detain you too long, I am afraid; to read all of these to you now.

Prac Far. That must be a good book for farmers, I should think. What is the price of it? Where did you get it? I will certainly have to get me one.

Science. It may be had at most of the book stores in the State, for a few shillings; and the title of it is, Lectures on Agricultural Chemistry and Geology; by Jas. F. W. Johnston.

Mt. Tabor, Champ. co., 1845. D. L.

Cure for Proud Flesh in Wounds.—Take equal quantities of suet and powdered charcoal, and sprinkle liberally in the wounds.

INOCULATION, OR BUDDING.

The object in budding is the same as in grafting, and depends on the same principle; all the difference between a bud and a scion being that a bud is a shoot or scion in embryo.

Advantages of Budding.—Budded trees are generally two years later in producing their fruit than grafted ones; but the advantages of budding is that, where a tree is rare, a new plant can be got from every eye; whereas by grafting it can only be got from every three or four eyes. There are also trees, which propagate much more readily by budding than grafting; and others, as most of the stone fruits, are apt to throw out gum when grafted. When grafting has been omitted, or has failed, in spring, budding comes in as an auxliary in summer.

Season of Budding.—The operation of common budding is performed any time from the beginning of July to the middle of August; the creterion being the formation of buds in the axillæ of the leaf of the present year. The buds are known to be ready by the shield or portion of bark, to which they are attached, easily parting with the wood. The buds preferred are generally those on the middle of a young shoot, as being neither so apt to run to wood as those at the extremity, nor so apt to lie dormant as those at the lower end. In some cases, however, the buds from the middle and extremity of the shoots are to be rejected, and those taken which are at the base of the annual shoots, as Cnight (*Hort. Trans.* vol. iii. p. 135) found in the case of the walnut tree. Scallop budding may be performed in the spring, or at any season.

"*Stocks for budding* may, in general, be much smaller than for grafting, as the operation may be performed on the same year's shoot. But it may also be performed on shoots or stems of several years' growth, and in such, by inserting a number of buds, a complete tree may be formed at once. Scallop budding may be performed on trees of considerable age.

"*Choice of buds.*—For grafting the shoots containing the buds, a cloudy day, or an early or late hour, should be chosen, on this principle, that the leaves, being at these periods in a less active state of perspiration, suffer least from being separated from their parent plant. They are preserved fresh, and may be sent a great distance by inserting their ends in water or moist moss; though in general they should be used as soon after gathering as possible; indeed, as in grafting and inarching, the whole operation ought be performed with the greatest celerity.

Kinds of budding.—Proffessor Thouin enumerates twenty-three species and varieties of budding; but we shall here describe only four, of which but one variety is in general use in Britain,

Shield-budding, or T *budding*, is thus performed:—Fix on a smooth part on the side of the stock, rather from than towards the sun, and of a height depending, as in grafting, whether dwarf, whole or half standard trees are desired; then, with the budding-knife, make a horizontal cut across the rind, quite through to the firm wood; from the middle of this traverse cut, make a slit downward, perpendicularly, an inch or more long, going also quite through to the wood. This done, proceed with all expedition to take off a bud; holding the cutting or scion in one hand, with the thickest end outward, and with knife in the other hand, enter it about half an inch or more below the bud, cutting near half way into the wood of the shoot, continuing it with one clean slanting cut, about half an inch or more above the bud, so deep as to take off part of the wood along with it, the whole about an inch and a half long; then, directly with the thumb and finger, or point of the knife, slip off the woody part remaining to the bud; which done, observe whether the eye or germ of the bud remains perfect; if not, and a little hole appears in that part, it is improper, or, as gardeners express it, the bud has lost its root, and another must be prepared. This done, placing the back part of the bud or shield between your lips, expeditiously, with the flat haft of the knife, separate the bark of the stock on each side of the perpendicular cut, clear to the wood, for the admission of the bud, which directly slip down, close between the wood and bark to the bottom of the slit. The next operation is to cut off the top part of the shield, and protrude granulated matter between it and the wood, so as to affect a living union. The parts are now to be immediately bound around with a ligament of fresh bass, previously soaked in water to render it pliable and tough, beginning a little below the bottom of the perpendicular slit, proceeding upward, closely round every part, except just over the eye of the bud, and continue it a little above the horizontal cut, not too tight, but just sufficient to keep the whole tight, and exclude the air, sun, and wet.

Scollop-budding consists in pairing a thin, tongue-shaped section of bark from the side of the stock; and in taking a similar section from the shoot of buds, in neither case removing the wood. The section or shield containing the bud is then laid on the corresponding scollop in the stock; its upper edge exactly fitted, as in shield-budding, and at least one of its edges, as in whip-grafting. After this, it is tied in the usual way. The advantages of this mode are, that it can be performed when the wood and bark do not separate freely; on trees having very stiff, thick, suberose (cork-like) barks, and at any season of the year. Its disadvantages are, that it requires longer time to perform the operation, and is less certain of success. The French gardeners often bud their roses in this manner in spring; and if they fail, they have a second chance in July, by using the common mode.

Budding with double ligatures is a mode invented by Knight, and described by him (*Hort. Trans.* vol. i. p. 194) as "a new and expeditious mode of budding." The operations are performed in the manner first above described; but, instead of one ligature, two are applied, one above the bud inserted on the transverse section through the

bark; the other, which had no further office than that of securing the bud, was applied below in the usual way. As soon as the buds had attached themselves, the lower ligature was taken off, but the others were suffered to remain. 'The passage of the sap upwards was, in consequence, much obstructed, and the inserted buds began to vegetate strongly in July, (being inserted in June;) and when these had afforded shoots about four inches long, the remaining ligatures were taken off to permit the excess of sap to pass on, and the young shoots were nailed to the wall. Being there properly exposed to the light, their young wood ripened well, and afforded blossoms in the succeeding spring; and these would,' he adds, 'no doubt have afforded fruit; but that, leaving my residence, I removed my trees,' &c.

Future treatment.—In a fortnight, at furthest, after budding, such as have adhered may be known by their fresh appearance at the eye; and in three weeks, all those which have succeeded will be firmly united with the stock, and, the parts being somewhat swelled in most species, the bandage must be loosened, and, a week or two afterwards, finally removed.—The shield and bud now swell in common with the other parts of the stock; and nothing more requires to be done till spring, when just before the rising of the sap, they are to be headed down close to the bud, by an oblique cut, terminating about an eighth or a quarter of an inch above the shield. In some cases, however, as in grafting, a few inches of the stalk is left for the first season, and the young shoot tied to it for protection from the winds.

Mr. Abner Landrum mentions a mode of treating the stock, and recently inserted bud, somewhat different from that of Mr. Knight, as detailed above. Instead of Mr. Knight's method of using a strong ligature above the inserted bud, he adopts the following:—As soon as it can be ascertained that the bud will live, which, he says, may be in about a week, if the stock be small, let it be instantly headed down, just above the bud to be nourished. If the stock be large, amputate the principal branches; and the consequence will be, an immediate bursting of all the latent buds, together with the inoculated one. As the inoculated branches multiply, diminish the original one till nothing remains but the new tree.

Mr. Buel, of Albany, in a note to *A Treatise on Gardening*, written by Mr. Armstrong, says, "The modern, and, from experience, I do not hesitate to call it the best, method, is, to insert the bud *without separating the wood from it.* I have budded, the two last years, in June. If thus inserted early, and the stocks headed down when ligatures are removed, the buds often make half a year's growth the same season, and are not so apt to suffer from the severity of the winter, as those which remain dormant."

Condemn bad traits by practicing good ones.

Every mechanic that has a spot of land, though it be small, should raise some fruit, both for pleasure and profit.

Dressing Wounds and Ulcers.—Dr. Langier's new method consists in applying on the surface of the wound or ulcer a solution of gum arabic, and on it a bit of goldbeater's skin; thus dressed, a wound an inch in diameter was reduced in the space of eight days to one-third or one-sixth of an inch in extent. Cicatrisation took place so rapidly that the granulations, covered with a thick epidermis, were as numerous and visible as before, but could be touched without causing pain. A wound produced by amputation of the breast highly inflamed about four and a half inches in length, and one and a half in breath, under this treatment healed rapidly, and purulent secretion did not take place. He proposes applying this method to a wound left by amputation of the thigh.—*Medical Times.*

Agricultural Statistics of France and England.—There are about 4,800,000 hectares pasture land in France, and 25,000,000 arable land. The result is a scarcity of cattle, forage, horses, and manure. France annually imports horses and cattle to the value of 100,000,000 francs. The following is a comparison of the statistics between France and England:

	France.	England.
Horses,	40,000	170,000
Cattle,	800,000	1,250,000
Sheep,	5,200,000	10,000,000
	For each million hectares	
Horses,	1,000	13,077
Cattle,	20,000	96,154
Sheep,	130,000	770,000
	For each million of inhabitants.	
Horses,	1,667	32,692
Cattle,	33,333	221,154
Sheep,	216,667	1,961,528

Rancid Bacon.—When ready to hang, swill each flitch with 2 or 3 buckets of water until all the loose salt is gone, then hang it to dry, and in a week it will be crystallised and as firm as a board, and will keep any reasonable time, if not covered over with paper, &c., as that retains moisture on the surface and destroys the crystallization, which will not reform: it must be kept in a dry temperature. I have treated my bacon thus 5 years, and it has been as good at 2 years old and as sweet as from the first.—*J. D. Mansfield.—Ag. Gaz.*

A Cheap and Durable Cement.—A most valuable and durable cement for the outside covering of wood-buildings, fences, &c., may be obtained by mixing two parts of sifted wood ashes, one of fine sand, and three of clay; these being again mixed with oil, and applied to the surface of the wood, is said to be capable of resisting the inclemency of the weather even better than marble itself.

Strawberry Cakes.—Sift a quart of flour into a pan, and cut up in it half a pound of fresh butter, or a pint if the butter is soft enough to measure in that manner. Rub the butter into flour with your hand, till the whole is crumbled fine. Beat two eggs till very light; and then mix with them two tablespoonful of powdered white sugar. Wet the flour and butter with the egg and sugar, so as to form a dough. If you find it too stiff, add a *very little* water—knead the dough till it quits your hands and leaves them clean. Spread some flour on your paste board, (a marble slab is the best for this purpose) and roll out the dough into a moderately thick sheet. Cut it into round cakes, with the edge of a tumbler, or something similar; dipping the cutter frequently into flour, to prevent its sticking. Butter some large square pans, or baking sheets. Lay the cakes in, not too close to each other. Set them in a brisk oven, and bake them a light brown.—Have ready a sufficient quantity of fine ripe strawberries, sweetened with loaf-sugar. When the cakes are cool, split them, place them on flat dishes, and cover the bottom-piece of each cake with strawberries, slightly mashed or bruised—then lay on the top-piece, pressing it down on the strawberries.

Cover the whole top and sides with an icing made in the usual way, of beaten white of egg and powdered loaf-sugar. Before the icing is quite dry, ornament the top with whole strawberries, a large one in the centre, and a circle of smaller ones surrounding it.

These are delicious and beautiful cakes, if properly made. The strawberries are not to be baked, as the flavor of this fruit like that of pine apple, is much impaired by the action of fire—and is always best when not cooked.

Instead of strawberries, you may use raspberries. There is none so fine as the large white or yellow.

SCAB IN SHEEP.

We gave a recipe, not long since, which, if faithfully used, is considered effectual in this troublesome and ruinous disorder in sheep.

In perusing an old work on agricultural subjects, the other day, we met with the following recipe, which we copy for the benefit of all concerned, and which is represented as never failing of success if well applied. It may be sometimes obtained when the other, which we have alluded to, cannot; and, besides, is not so dangerous to the general health of the sheep.

Take 3 gallons of brine,
3 gallons of urine,
1 lb. sulphur vivum (flower of sulphur,)
¼ lb. white copperas, (white vitriol or sulphate of zinc,)
½ lb. alum,
½ lb. leaf tobacco,

These ingredients to be boiled until reduced to two gallons, and then corked up.

When used, the wool should be parted on the buds of the scab, and a small quantity of the mixture poured on them, and this should be repeated three or four times, and well rubbed in.

The writer says: "I scarcely ever knew this application to fail the first time. My sheep, running on a common where this disorder prevailed very much when first I kept them. I found it very troublesome; but I have now the pleasure, with this recipe, not only to find my own sheep quite clear of it, but those of my neighbors."

Let us examine into this recipe a little. It is now known that this disease is a species of itch. That it is caused by animalculae, or little animals, so small as to require a microscope to see them, burrowing in the skin of the animal, and cutting off all supply of nourishment to the wool, which comes off. We have no doubt that the ingredients mentioned, when properly applied, will destroy these animalculae, and thereby cure the disorder.

Plain Rusk Pudding.—Rusk your bread in the oven, and pound it fine; to five heaped table spoonsful of it, put a quart of milk, three beaten eggs, three table spoonsful of rolled sugar, a teaspoonful of salt, half a nutmeg, and three table spoonsful of melted butter; bake an hour. It may be eaten without sauce.

To preserve Eggs for a long time.—As soon as hens begin to lay in the spring, cover each egg with a thick coating of lard, or other soft grease, and then lay them with the small end downwards, in regular piles, on the cellar floor; or pack them in earthen jars, filled with melted fat, not hot; this keeps out the air. Or keep them in jars, and pour lime water on them, which keeps the air out, and does not injure them, for everybody knows that eggs are composed of lime. —*Am. Ag.*

Cure for Fistula, or Poll Evil.—Clear the cavity as near as may well be, then fill it with powdered saleratus or pearlash.—*Am. Ag.*

A Good Compost for Sandy Land.—Take 10 loads of stable or barn-yard manure, 5 loads of clay, 10 bushels of ashes, and 20 bushels of lime, mix the whole well together, let it remain in a pile a few days, turn it over, when it will be fit to apply to the land.

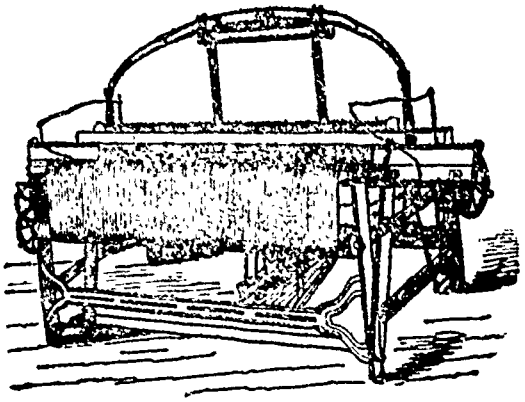
The above quantity will make a better dressing for an acre of sand than twenty, or even twenty-five loads of stable or barn-yard manure alone, and will last longer. Let any one who may doubt, try it, and they will be convinced of the truth of what we say.

To stop the scours in sheep and lambs, give them a small quantitty of salt pork: if administered soon after they are attacked, two or three doses will generally effect a cure. I have given it to neat cattle for the same complaint and with good effect.

Curing Bacon.—I beg to forward, for the benefit of your correspondent who wishes for a receipt for curing bacon, the following one, which I have found to answer exceedingly well:—¾ lb. of bay salt, ½ lb. of saltpetre, 1 lb. of coarse sugar, and about 1 lb. of common salt. This is sufficient for the bacon and faces of a hog of 10 or 11 score. Pickle altogether, and let it remain in the pickle a month, turning and rubbing it all every day. I would remind your correspondent that the flavor of bacon depends quite as much upon its being properly smoked and kept after it is made as it does upon the curing.—*Correspondent of the Agricultural Gazette.*

To preserve Steel Instruments or Tools from Rust.—Take a piece of buckskin and rub it over with a few cents worth of mercurial ointment. This applied, will preserve steel from rust, but will not take it off when once on.

POWER LOOM.



TO WOOLLEN MANUFACTURERS.

THE Subscriber begs leave to inform the public that he has been engaged with Mr. Christopher Elliot at the *Phœnix Foundry, Toronto,* for the last two years past, in building *Woollen Machinery,* but in consequence of having suffered a serious loss by the late fire, he has been obliged to give up the business with Mr Elliot, and therefore does not hold himself accountable for the working of any of the machinery built at the *Phœnix Foundry* after the first January last.

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that may be required in manufacturing Woollen Cloths in this Province, such as follows, viz:—

Pickers, Carding Machines, Condensors, Spinning Jacks, Broad and Narrow Power Looms, Fulling Mill Cranks, Napping and Teazling Machines, Gigs, Shearing Machines, Jinnys, Stoves for Heating Press Plates, Cast Iron Dye Kettles, together with every other kind of Machinery required to manufacture Cloth.

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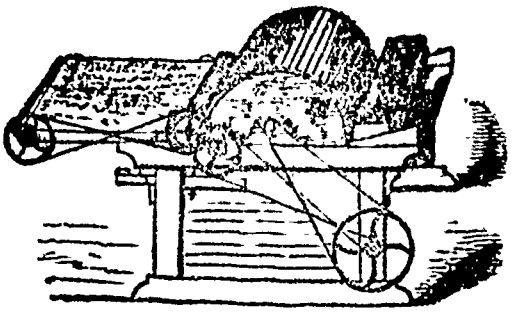

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W. BARBER & BROTHERS.

Esquesing, April, 1845.

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☞ Editors of Provincial newspapers will oblige the Proprietors, by giving this advertisement a few insertions.

Toronto, Jan, 1845.