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# THE BRITISH AMERICAN



# CULTIVATOR.

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

VOL. 2.

TORONTO, AUGUST, 1843.

NO. 8.



## THE CULTIVATOR.

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

TORONTO, AUGUST, 1843.

### TO AGRICULTURAL SOCIETIES.

It was our intention to have prepared an article, embracing the leading features, for the better guidance of agricultural associations throughout the entire province, but our absence in the country, and other pressing business matters, have prevented the carrying out of our plan in time for the present number. The subject, however, is one of too much importance to pass over, without giving it due consideration, we shall therefore endeavour to avail ourselves of the first opportunity of giving it a place in the columns of our Journal.

The Autumn cattle shows and fairs all shortly take place, and it is to be hoped that our efforts will not be lost sight of by those who take the lead in managing the affairs of agricultural associations. If legally organized societies do not countenance the *British American Cultivator*,—we certainly are unable to conjecture from what source we have a right to look for a support.

In a report of a county society of the State of New York, mention is made of the society subscribing for 500 copies of the leading agricultural

Journals of the State, and a few others from other States and England.

The *Prairie Farmer*, published in Chicago, Illinois, is published under the patronage of an Agricultural Society, which guarantees the respectability of its matter, and punctual appearance.

The only way that the Canadians can profitably compete with their neighbours is to meet them on their own ground,—if they combine science and skill with the practice of farming, so must we, or else we shall be looked upon as being behind the age.

We hear of men growing rich by the profit of Agricultural publications,—we neither want riches nor honour,—we merely crave a support for our useful enterprise, which will meet the engagements which we have made with the public, and leave in our hands a sufficient surplus to remunerate us for the time which we have so ardently and devotedly spent in advancing the cause of agricultural improvement.

We have at least 2,000 files of the back numbers of the present volume,—if these were disposed of, we would then be encouraged to progress with renewed energy. Each society ought to order at least one hundred copies.

Some time ago we intimated our intention of removing the Printing Establishment of the *Cultivator* from the city, but having concluded very favourable arrangements for its future publication in Toronto, we do not intend to carry out our former purpose.

The *Cultivator* will, hereafter, be issued from the office of *The Banner*, No. 142 King-Street, Toronto, and we hope the work will proceed with more regularity, and be placed on a much better footing than heretofore.

### TO AGENTS.

We have been very desirous, at all times, to hold out liberal inducements to our Agents to exert themselves in our behalf, and have made several advances in the liberality of our terms. We have been devising the conditions on which we now issue our paper, and find that irregularity has crept into our management. This, we are determined, shall not occur again, and the *Cultivator* will be hereafter issued on the following terms, from which the slightest deviation will not be made.

One copy, One Dollar per annum.

Fifteen copies, Ten Dollars.

Fifty copies, Twenty-Five Dollars.

Cash invariably to be paid in advance, and remitted here free of postage.

As we are anxious that a copy of the *Cultivator* should be in the hands of every Postmaster in the Province, we will send a free copy to every Postmaster who forwards us the name of one or more subscribers to the work. The objects contemplated in the publication of the *Cultivator*, are of such deep importance in an extended agricultural country, and the class to whom we more particularly address ourselves, is so numerous, that the circulation of our paper ought to be very great. The price, too, is so remarkably low, (admitted the cheapest publication in British America,) that no one who has the smallest interest in the advancement of agricultural improvement through the country, can have a pretext for not subscribing.

We are quite aware, that by a rigid adherence to the Cash principle, we shall, at first, lose some of our subscribers, but in the end, we are sure we shall gain by it. We shall, at any rate, know precisely, at all times, how we stand.

The September No. will be issued by the 30th instant.

## AGRICULTURE IN NOVA SCOTIA.

A very neat and ably written Agricultural Report, published by the Gloucester Agricultural Society came duly to hand, from which we make the following extracts:

"The great extent which the products of the soil within this County the past season, exceeded those of all former years, must of course be mainly attributable to the favourable weather experienced between seed time and harvest, as well as to the numbers which the suspension of commercial and mechanical employment forced into farming to secure the necessities of life; at the same time your Committee deem it proper to state their conviction, that the interest excited, and the impulse given to cultivation through the operations of this society, have largely tended to the accomplishment of so gratifying a circumstance."

"The consequences that must inevitably follow a disregard of the advantages which the rapid and surprising progress of Agricultural science now affords, will be the surest, but the severest remedy for the evil. Every Agriculturist of common observation may already see that the best farm managed on the system of the last century, cannot successfully compete with an inferior one receiving the benefits of modern practice, so it becomes evident that the indolent or reckless follower of the old school in husbandry, must be at once aroused to a sense of his situation, or he must be prepared to suffer from short crops, and the decay of his land. To those who are disposed to improve, your committee have endeavoured to inculcate the following advice, as therein is comprised a corrective for the worst, and most prevailing errors of our farmers, viz:—Be more provident of your stable and barn yard manures—erect more substantial fences—provide yourselves with ploughs and plough your land oftener, and occasionally deeper—divide your cultivated land into fields or patches, and establish a rotation of crops, for these divisions—raise no crop two years in succession on the same patch or field—use the choicest seeds for sowing and planting, that you can possibly obtain, if you have to travel one hundred miles to obtain them, and use no poor seed if you get it for nothing—keep your breeding cattle enclosed, and at the proper season take them to those animals which obtain premiums at the preceding cattle show of the society—kill your young cattle that show defects, raise those that appear pure; but above all keep no more cattle than you have the means to FEED WELL."

"If your committee can manage to get these few practical rules observed by a majority of the farmers in this and the adjoining parishes, they are sanguine that the fruits will be plainly distinguishable before three years elapse, and the parties who adopt them, will then be prepared to make experiment of new suggestions for enriching the soil, and facilitating vegetation, as well as be able to give substantial support to the society in the advancement of agricultural knowledge in more remote districts."

"The recommendation of your committee, respecting the formation of compost heaps by every small cultivator, has been very generally adopted in the parish of Bathurst, and partially in the parishes of Beresford and New Bandon, with some success. The black mud found in the Coves of the harbour of Bathurst, and the bay, mixed with lime or stable manure, has been found to answer well on the sandy soil of this Promontory: In the parish of New Bandon, marl which is found there in great abundance, mixed with sea weed, proves best adapted for general purposes, to the heavy gravelly soil of that district. In the parish of Beresford, manures containing a mixture of lime in any great degree, have utterly failed in nourishing or enriching the soil; this your committee know can be satisfactorily accounted for on chemical principles, but it would be here unnecessary to do so; the fact being now fairly substantiated, it only behoves the members of the society to discountenance the use of lime there as a manure, and to substitute swamp mud and sea weed, which your committee are satisfied will answer every purpose."

"While your committee are on the subject of manures, they beg to observe that although it may

be within their power to encourage very generally the collecting and using manures, yet the judicious and proper adaptation of each description of manure to the various soils and situations within the sphere of their operations, they have now only the tedious mode of testing by a series of experiments; whereas if they had the benefit of a periodical visit from a gentleman combining scientific with practical knowledge; a lecturer on agricultural chemistry—who would analyse the soils, they would then be enabled to anticipate this knowledge, and save years of toil and trouble in arriving at it. The encouragement of such a person well deserves the attention of our Provincial Government; and a small annual grant from the Provincial Treasury, with the assistance of the Agricultural Societies of the counties visited, would amply provide for an itinerant lecturer on Agricultural Chemistry."

"Amongst the articles of domestic manufacture which your committee were pleased to observe exhibited at the Fair, was a Fanning Machine, on a new principle, the invention and manufacture of Mr. Daniel Hadley, of Little Nipisiguit, which was very creditable to the inventor, and they regretted that no proposal was made to purchase it, as an encouragement to the enterprise of Mr. H. and other resident artists and mechanics."

"The condition attached to the grant of premiums at the Cattle Show—that is to say, that the animal for which a premium was received should be kept efficient as a breeding animal within the county, (so far as it was within the owner's powers to do so), for the twelve months succeeding the exhibition, was judicious, as it secures the means of extending the breed of the best animals, and many from distant places have already taken advantage of it to improve their stock."

"At the Annual Ploughing Match held on the 1st of November, the number of competitors was not so great as was anticipated, owing to the state of the weather, but your committee were delighted to observe that the native Acadians predominated. The ploughing was exceedingly well performed, and your committee have every reason to believe that if these matches be annually repeated, in two years the natives of our county, to whose acquaintance the plough is comparatively but lately introduced, will be able successfully to compete with the best old country ploughmen, a circumstance which can be attributed alone to the influence of this society."

"At the time appointed for the Grain Show, the county was agitated by the proclamation of a general election; and the attention of some of the principal farmers was so occupied that it was found desirable to postpone the show of grain till the last week in January; your committee, however, are prepared to acquaint the society that in the article of Wheat our farmers continue to excel, some Spring white Wheat raised by Thomas Armstrong, of Youghal, last year, weighed 66lbs. to the bushel, some raised within the town plot of Bathurst was over 65lbs, and a large crop of the same description of grain raised by John Richey, Esq. of New Bandon, exceeds the above in weight. Your committee would recommend that instead of importing inferior grain for the use of the members, the society would determine to secure from the persons named a quantity to dispose of next spring, for they are confident that so good grain as the best raised in this county, cannot be obtained elsewhere. Your committee will cause the proceedings at the grain show to be published separately, as it proves too late to include in this report."

With all the boasted excellence of the capabilities of the western portions of this Province, for the growth of bread stuffs, there is no parallel case on record where the extraordinary weight, per bushel, mentioned in the report has been produced, nor have we ever seen or heard of an instance wherein the weight of spring wheat equalled it, unless the one mentioned in a report published by the Restigouche Agricultural Society, of the sister province of New Brunswick, in which it is stated that a prize of twenty shillings was granted to John Currie, of Pointe Le-Laine, which weighed 66 lbs.

34 oz. per bushel, the seed of which was imported by the society the year previous. We have long since been aware that the friends of agriculture in Nova Scotia were exerting their utmost influence in placing that colony in a healthy state; we consider that the report referred to, and others of a similar character, which have reached us, and the efficient steps taken by the Boards of Agriculture of that province, are sufficient grounds to strengthen the belief that our sister province is destined to rival in the growth of agricultural produce, the Canadas or the adjacent States of the Union. We assure our readers of the sister province that they have adopted the right course to attract the redundant population of the British Isles to their shores; and it will only require the other provinces to follow the noble example which has been so liberally set them, in order that each may obtain a fair share of the wealth and skill of Britain. Mark, what is said of the farmers of the old school! The assertion here made is verified to a nicety, in many portions of this province, and we are happy that it is in our power to add, that now and then are instances to be found, where an enterprising farmer is patriotically devoting his energies in exploding the errors of the system of cultivation practiced in this province. They have not lost sight of the aid of the press in the province of Nova Scotia, to further the advancement of agricultural improvements. Independent of the county periodical agricultural reports, which are gratuitously circulated among the inhabitants of all classes, that province alone, has two ably conducted and efficiently supported agricultural papers, which are subscribed for liberally, by the several agricultural societies of the province. We noticed in one of the reports, that 500 copies of the *Colonial Farmer* had been subscribed for the use of the society. We earnestly entreat the farmers of the province of Canada, to examine into the cause of the distress which every where prevails throughout their land, and adopt every legitimate means of permanently alleviating the complained of evils. A cure is within their own grasp, but to obtain that cure, they must make use of the means which have been so bountifully placed in their hands. All the patch-work that legislative enactments can do for us will avail nothing so long as there are so many drones in the hive. Too great a proportion of the population are endeavouring to live by their wits, who, instead of producing an extra blade of grass, or an ear of corn, are consuming the produce created by the toils of the husbandmen, which should go to pay for the tea, sugar, coffee, and other necessary importations, and thus aid in clearing the country of debt. The only immediate remedy for the times is to produce more articles for export, and import less—and the best permanent remedy will be found in the fostering care bestowed to the agricultural and mechanical branches of industry.

It is a fact that cannot be denied, that the cultivators of the soil are much to blame for the low standing which their profession bears

when compared with others of a less inviting and independent character. They have neglected the proper education of their sons and daughters, to fit them for making respectable and intelligent neighbours and useful citizens. They have seldom taught them to honour and respect their calling, by placing facilities within their reach to enable them to think closely, to speak cautiously, and to act efficiently. What did we hear sounded in our ears, by a young student at law, within the last fortnight, when chiding a fellow student, who while conversing with us, made use of a vulgar, or hacknied phrase, which was rather out of the bounds of polite literature? Why it was this, "that he felt astonished that a student at law would thus murder the *Queen's English*; while at the same time he would consider such a breach of the rules of grammar quite pardonable were it made by a farmer."

One thing is certain, that the only plan which can be adopted, effectually to give a character to the agricultural interest of Canada, and cause men of other classes to respect it, is that the cultivators of the soil respect it themselves, by practically and scientifically educating their sons in every branch of their respectable profession. And instead of educating the brightest and clearest headed, for the learned professions, as they are called, have such taught the mysteries of chemistry applied to agriculture.—the proper application of mineral substances to the various soils, and a thorough knowledge of their own language, so that they may have a common sense understanding of men and things, so that they may be capacitated to fill, in a creditable manner, the office of magistrate, district councillor, member of a board of agriculture, or a member of the Provincial Parliament. The education requisite for all this requires no great investment either of money or time; it merely requires that the student be taught the rudiments of his own language, at one of the common district, or grammar schools, and during leisure hours, such as rainy days, and evenings, that he devote such periods of his time in consulting scientific and useful works, so that his mind may be stored with useful ideas, to reflect upon while following the plough, gathering the harvest, or carrying his father's grain to market. Correct ideas do not enter our brain by mere instinct, as all who have thought on the subject must know that we obtain them by perception, comparison, conversation with correct men, reading and consulting good authors, and by a thousand other channels unnecessary to mention. The most easily to be obtained source of acquiring correct ideas, for the farmer, his sons, and his daughters, as well as his household domestics, is from the many useful publications which may had at a very trifling cost, compared with the price which similar works cost half a century ago. An annual tax of ten dollars per annum, would not be felt by any farmer, for so noble and useful a purpose as placing in the hands of his children information which would elevate them to a respectable position in Canada. Hours never pass so swiftly away, as when a young

man of good taste is enjoying social conversation with an intelligent old man; he there learns lessons that will be fresh in his memory, through the various walks of life, and which will be a source of much profit through the various vicissitudes of the journey of life. And we would ask the heads of families, and our young readers, how can you expect that the next generation will be more intelligent, or more wise, than the present, unless you adopt the necessary means to make them so? It appears to us that we owe a duty to our country which will require a life time to perform. This spirit should be more prevalent among the present generation. The young men of the present day have forgotten what their hoary-headed guardians suffered to make this country, suitable for the habitation of a christian community. We are disposed to complain of the times; now the times were never better in the world than at present. The fault lies with us, we have become proud, fond of making false appearances, or, in other words, desire to shine in borrowed plumes, rather than be content with living within means. We are aware that we are touching upon a very tender chord, and one which but few will be disposed to entertain the same opinion with us, but before we close this branch of the subject, we would merely call the attention of our readers to one fact, which will elucidate most clearly the position that we advanced above, viz. that the present appearances of the Canadian population, when the productions of the soil and the workshop are compared with their condition sixteen years ago, bear no analogy with the productions at that period. We leave our readers to draw the inference.

The evils resulting from the present plan of over-trading, and non-producing, must be redressed, or the whole country will shortly be in a state of bankruptcy, which will require a series of years to redeem, supposing that proper means be resorted to, to effect that object. We may borrow as many millions of money as the capitalists of Great Britain choose to lend us, and the remedy will only be temporary. The bullion will all find its way back again to the mother country, to pay for imported goods, and leave behind only a representative in the shape of rags.

The crisis which is fast approaching is of no ordinary character; and it will require something more than ordinary means to place the country in the same healthy state that it enjoyed a few years since. The Americans have adopted the right course to relieve their country from the evils which they have so long complained of; and our readers need not be surprised if they hear it sounded in their ears in less than five years, that the exports of the United States exceeds the imports, to the gross amount of some eight or ten millions of dollars annually. The scheme which that country lately resorted to, is one which the European nations have followed with admirable success, and one which we as a colony must engraft on our own system of internal policy, or else be deemed to be thought unworthy of

a name among the civilized portions of the earth.

To talk about free trade on the continent of America is worse than nonsense. The Americans are a people who will advance step by step in laying on restrictive duties on foreign agricultural produce and manufactures, until they approach to a direct prohibition. Their diversified soil, climate, and the genius of their people, will point out to them the advantages which would result from such a sound policy.

The subject of a Canadian Tariff will shortly be brought before the Provincial Parliament. We know not the course that government will pursue, but one thing we know, that the agriculturalists of this province entertain but one of opinion on the subject of protection to the productions of the soil. If we be spared, the subject of demanding justice to the cause of our country's agriculture will be discussed in the September number—a number of which will be sent to each member of the Legislature for their consideration. We shall never be satisfied with half measures (the article of American wheat an exception) on this question. Although we are of opinion that a high scale of duties levied on foreign agricultural produce, would be of incalculable benefit to all classes of Her Majesty's subjects in this province, yet we would not wish to be misunderstood by, any that we suppose that an increased production of breadstuffs would be created by the adoption of such a measure, unless the people bestir themselves and make use of the means which are abundantly diffused throughout almost every portion of the province. They must unshackle themselves from their mean and narrow-minded views, and unite together in harmony and good will, for the welfare of their fellow man. The impression has gone abroad that the province of Canada is an exclusively agricultural country. Those who have fostered and promulgated that opinion, should endeavour, as far as possible, to use their influence in establishing a character for the agriculture of the country, and unless they do so, they are unworthy of being placed at the head of affairs.

As a conductor of an obscure sheet, which is scarcely noticed by some of the literary sages of the country, we need scarcely hope to accomplish much towards bringing about changes which would affect the social and political relations which man holds to his fellow man; notwithstanding our obscurity, and the smallness of our pretensions, we feel disposed to aid in the work of placing this, our native country, in a position worthy of being called the brightest appendage of the British crown.

The means to be adopted to accomplish the desired good are multifarious; but the whole are easily accessible. A few of them are—Protection to agriculture in all its departments, equivalent to the protection enacted by our neighbours on foreign produce entering their markets,—encouragement to such manufactures as may be successfully worked in the province,—the repeal of duties on all raw materials entering the ports, such as cannot be profitably

produced within the limits of the country, — the establishment of Boards of Agriculture in every district of the province, as well as a General Board of Agriculture, — the diffusion of useful knowledge on all practical and scientific subjects that would tend to elevate the standing of the producing classes of the community, — the divesting ourselves of everything that is exclusively selfish, by uniting in our strength to fortify our highly favoured province with a spirit of good will and brotherly love towards each other, — the organization of Agricultural Societies on such exalted and benevolent principles that a manifest benefit would be widely diffused throughout their whole field of operations, that would at once convince the uneducated and selfish that the ostensible object of their exertions was for no other benefit than the general good of mankind. These are only a few of the many movements which we would recommend for the consideration of those who guide the helm of state affairs. We have nearly exhausted the space which we allotted for these few hastily arranged remarks; but before we draw the subject to a close, we cannot refrain from embracing the favourable opportunity, which here presents itself, of giving a few hints to the Agricultural Societies throughout the province. As praiseworthy as has been much that has been done by the associations for the promotion of a better system of agriculture, the beneficial results derivable from their exertions have been limited, in comparison to the great amount of benefit that might have accrued to the country, had they adopted the plan which their brethren of the sister province of Nova Scotia have latterly pursued with so much zeal and laudable enterprise. A better system of agriculture will make slow progress indeed in a country where there are no other sources of encouraging improvements, but merely the dividing a few paltry premiums among a few of the leading, or best farmers. What we want are facts, communicated through the medium of an ably conducted press. The manner in which these facts may be obtained and disseminated through the length and breadth of the land, will be a matter for us to point out. But, before we proceed, we would observe that the public must have their minds divested of hereditary prejudices, and they must allow the general rays of truth and sound philosophy to reign predominate in their breasts.

We say the press must be brought into requisition. Each farmer must take his one, two, or more agricultural and scientific journals, so that instead of one small and comparatively unknown agricultural magazine, struggling for a mere existence, we may see at least a dozen respectably conducted and efficiently established exclusively agricultural journals, sending forth rays of light to illuminate the understanding of the cultivators of the soil. If a correct and judicious system of managing the fertile lands of Canada were put into general practice, the result would obviously be that an increased produce would be created, sufficient to give a balance of trade in favour of this country, after

paying for all the necessary importations which we require. This point once gained, will place our noble country in an enviable position, both in an agricultural and commercial point of view.

The advice to Agricultural Societies may be seen in another column under its appropriate heading.

#### ROME DISTRICT CATTLE SHOW AND FAIR.

The Exhibition of the Parent Agricultural Society of the Home District, will take place on the 11th of October, on the grounds allotted for that purpose, near the new Gaol and Court House. As will be seen by advertisement on the last page. The very liberal premiums to be awarded for the article of Hops, will, no doubt, have the effect of drawing the attention of the farmers of the District to the cultivation of that plant. We trust that the encouragement thus given for this one particular object will increase at each Autumn exhibition in quadruple ratio during the next two years; and we will venture to say that the Home District alone would be able to supply every brewery in the Province with that article, within very few years, if the steps we propose be adopted.

A Home District farmer of our acquaintance is amassing a fortune from the profits of his hop-grounds; and he informed us, when last in Toronto, that there was no branch of farming which brought in such heavy returns for the capital and time invested in the business, as that of the cultivation of Hops.

Many might object to engage in the cultivation of this plant from their want of experience in its culture; to those we would say, subscribe for *The British American Cultivator*, and there they will find the desired information at a mere nominal cost.

We have given the subject of cultivating the Hop plant much consideration and arduous investigation, and we conceive ourselves to be so far master of the subject as to be able to enter into the minutia of its cultivation; and, after preparation, will prove to be of much use to those who may be prepared to engage in the business. A series of articles will be arranged on the subject, in time to make their appearance to the public in the three last numbers of the present volume.

The Home District Agricultural Society deserves the hearty thanks of every spirited Farmer in the District, for the bold efforts they have made in his matter.

The September number will be before the public at least ten days before the day of the above exhibition, in which number we shall take further notice of the proceedings of the Society in question.

#### HOUSES OF UNBURNT BRICK.

We were lately invited by Jesse Ketchum, Esq. of this city, to call and examine a new style of good houses which he has in course of building, a short distance north of this city. The bricks are made of the size and style recommended in a late number of the *Cultivator*, and built in the wall the width of one brick. The outer side of the wall is encased with a course of burnt brick, which gives it the appearance of a burnt brick building. This is unquestionably one of the cheapest and best style of houses for the general purposes of farm buildings, and one which will undoubtedly be warm and durable.

#### LIME.

The application of lime to the soil, as a stimulant food to the plant, and as a corrective, or neutraliser to the pernicious acids, which are more or less frequent in all soils, is a branch of farming almost unknown in this province.

There are but few portions of Canada, which we have not traversed, and we have no scruple in asserting, that in no country in the world, would the application of lime to the soil have a more direct and beneficial influence, than on the majority of the cultivated lands of this country.

But few in the province could be found who would believe that the return made from liming ground for crops would pay the expense, — the experiment has never been fully tried, and why should any one raise objections to the carrying out of a scheme with which they are totally ignorant? In all of the improvements which we intend to recommend to the notice of the Canadian farmer, their practicability and profit, shall be features of the system which we will endeavour to be master of, — and only such as are calculated to handsomely repay the producer, shall receive our countenance. We conceive the amount of the profits of a business, to be the grand propeller to stimulate mankind to action; and unless a fair amount of profit be the result of the improvements which we recommend, only few will follow our suggestions. To convince the farmer that we are sincere in our advocacy of their best interests, we would suggest the propriety of each and all, testing the plans we lay down, on a small scale at first, — and if any require information on any branch of their business, we shall at all times feel pleasure in answering any inquiries which would tend to benefit the public.

Lime may be had in large quantities in this city, for the low price of one shilling and three pence per barrel, — ten barrels per acre would be found to have a wonderful effect on the growth and early maturity of the plant, which is so trifling a cost that no one could object to trying it on a small scale. Where limestone can be had at a mere nominal cost, and fuel for the mere chopping and drawing, the cost would not exceed ten pence per barrel, and even less than that sum in cases where much of the work of chopping wood, drawing stone, and burning, may be performed by the farmer, his sons, or his farm labourer. The subject is worthy of experiment, and we trust that its importance will not be lost sight of by the farmers generally.

The quantity of lime to be applied to the land must, of course, be proportioned to the quantity of the lime, as well as to the nature and condition of the soil; the operation must be in a great degree governed by the expense and the probability of the immediate and future profits. A less quantity than 20 bushels per acre would scarcely be perceptible, and in many instances, 200 bushels per acre would be found to remunerate the expense, and leave a handsome profit over and above. The only lands in Canada, that would require that quan-

ity, are such as do not at present produce sufficient to make it worth the attention of an enterprising intelligent man to cultivate them, supposing the lands cost him nothing. A tract of country in the Ningara district, in the neighbourhood of Smithville, is of the above description, and although limestone is abundant, and wood may be had for chopping and drawing, still no regard is paid to the renovating of the soil, by means with which an ALL-WISE PROVIDENCE has so bountifully blessed them. The occupiers of about 20 miles square of country in the above section, instead of *living*, are merely *staying* on their land, and a miserable *stay* they make of it. The oldest settlers informed us that, when their land was new they used to raise 40 bushels of wheat per acre, and now they cannot safely calculate upon 10 bushels. We explained to them how they might grow 40 bushels as formerly, and if they would *subscribe* to our magazine, we would give them monthly instructions about their respectable calling, which would enable them to shine in their sphere, and be a credit to their country, and an honour to their profession. It is almost needless to add that we were unsuccessful; and although we travelled on horse-back three days through the *hard-pans* of Smithville, still we had not the good luck of obtaining a single subscriber for our paper. The land has become so stiff and hard, that it can only be ploughed when in a wet state. If the next generation is not more enterprising than the present, the whole of that part of the district will be unfit for the residence of man. The same description of soil would be considered in England and Scotland, to be the best for the growth of wheat and beans.

Deep autumn and spring ploughing—the rough draining with a trench plough—the application of the manure from the barn yard before it had passed through the stage of fermentation, and the application of about 100 or even 200 bushels of shell or unslacked lime per acre, applied in the month of June, so that it may be thoroughly incorporated with the soil during the subsequent operations of the summer following process, are a part of the system that we would recommend to the notice of that class of farmers who have a heavy tenacious clay, that they consider at present unworthy of their attention. Ten acres thus managed would pay better than 40 acres cultivated after the style mostly practised throughout the country.

There is, perhaps, no country where lime has been used to such an extent and with such effect, as in the improved parts of Scotland, where it is often carried to the distance of thirty miles, after having been imported from distant points of the coast, yet, in most cases, the profits have borne out the charges and left a living profit to the farmer. We shall recur to this subject again, and give more explicit directions relative to the management upon different soils.

#### SIBERIAN SPRING WHEAT.

A farmer in the Township of King, lately presented us with a very superior sample of this spring

wheat, which exceeded anything of the kind that has come under our notice. Indeed, the sample was so good, and had such a close resemblance to a variety of winter wheat, with which we were well acquainted, that we determined upon examining it while in the straw; we have subsequently done so, and feel no scruples in bearing testimony to the fact, that the small quantity we previously examined was not made up from selected heads, or choice grains, but was a fair average of a stack containing between eighty and an hundred bushels. This may be known from other sorts by its having a bright red beardless chaff—fine, silky straw, and a round transparent berry. The average yield is computed to be upwards of thirty bushels per acre.

#### DANTZIC WHEAT.

A number of farmers in the neighbourhood of this city have been in the habit of sowing more or less of this variety of wheat, during the last few years. We have conversed with some who highly approve of it, and others who have their doubts about its adaptation to the Canadian winter. We have carefully examined two fields, one of last, and the other of the present year's growth, of the above variety of wheat, and are of opinion that it is worthy of the notice of the Canadian wheat growers. One gentleman of our acquaintance has harvested the present season sixteen acres, from which he anticipates upwards of five hundred bushels,—he has already delivered one hundred bushels of the present year's crop, which was admitted by three of the most extensive millers of the Home District to be one of the brightest and best samples ever exhibited in the Toronto market. If any of our friends desire further information relative to this variety, we would feel a pleasure in answering their enquiries.

#### RAPE.

We lately saw a beautiful field of rape, which surpassed anything of the kind that we have seen in this country. If mutton be a remunerating price the ensuing winter, the crop in question will pay its owner at least £4. per acre; and the ground will be in as fit a state for spring wheat, with a single autumn ploughing, as though it had undergone a thorough summer fallowing.

#### AUGUST, 1843.

The propitious weather which has prevailed for the last six weeks has enabled the Farmer to secure the golden crops in excellent condition. Next only in importance to the seed time and summer growth is the weather in harvest, and never were the hopes of the husbandman more fully crowned than they have been this season. There is also an evident tendency to a rise in price, which is much wanted, from the low rates which have been realized for the last two years. To secure a remunerating price is universally desired by farmers. This price, however, depends much on the ideas and situation of the producer himself. One person who exercises no skill nor care in the management of his farm, and who is careless in his expenditure; who, in the one hand, receives a short crop, and on the other, has too large an outlay, will never have a remunerating price. Another, who takes every means of acquiring information of the best modes of cultivation, and who diligently and promptly carries this information into practice, will, at all times, receive the largest amount of crop which his land can produce, and if he watches the other side of the ac-

count, by due care and frugality in his outlay, he will almost invariably have a secure remuneration, and when any considerable advance happens to take place, he will find a great addition made to his capital. Whether such a result will occur this year, it is difficult to say; but Canada is now placed, by the recent act of the British Parliament, all wing grain to be imported there upon a nominal duty, in a better situation for taking the benefit of any fluctuation in the market of the mother country, than she has hitherto been.

The farmer is now busy ploughing, and sowing his Autumn wheat. The month of September is at hand, and we have a few hints to give to our friends. As soon as the wheat is all sown, and the seed covered, the whole of the ground which it occupies should be completely water furrowed with the plough, and the leading drains and intervals should be opened, and cleared out with the spade. The time spent in this work will produce one hundred per cent on the outlay at least. Ground badly prepared, and that which lies too low for Autumn wheat, should be ploughed as soon as possible, and late in the Autumn laid up into convenient ridges for spring wheat.

We advise Farmers to save every bundle of straw. It may be used in the winter with great advantage in the sheep yard for bedding. Horses, cows, calves, and swine, should have comfortable beds of straw. Each bundle of 56 lbs. will be worth, to a provident farmer, one shilling, before the close of the winter, especially when it happens to be as severe as the last was.

The second crop of clover hay may with much profit be mixed when about half cured with bright wheat, barley, or oat straw.

We recommend every farmer not already in possession of a good fanning mill, to get one without delay. We believe there are but few in use in the country, which come under that description. The most perfect piece of machinery of this description can be had at Mr. Watson's, near Thornhill, Township of Vaughan, for the low price of five pounds each.

The young man who invented the pattern has conferred real benefit on the country, and ought to be encouraged. If wheat be ever so foul, this mill will clean it in the most perfect manner. The machinery is so constructed, that after the grain has passed through the sieves to the shaking screen, the light wheat and chaff is all separated from the wheat. To those who may not have an opportunity of examining for themselves, we would be happy to answer any communications which they may address to us respecting it.

#### TO DELINQUENTS.

We have to request that those subscribers who have not yet paid their subscriptions for the current year, will do so immediately. It is very disagreeable for us to make such appeals, but we cannot avoid it. We write our Agents to no effect for remittances, the subscribers not having put them in funds. We trust this notice will be immediately attended to.

#### THE JULY NUMBER.

We have to apologise to our readers for the numerous typographical errors which occurred in our last number. We were absent from town on urgent business, when the paper went to press, and deeply regret the occurrence.



From the Albany Cultivator.

REPORT OF DR PLAYFAIR'S LECTURE BEFORE THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Dr. PLAYFAIR stated that the object of the lecture was to point out in what manner the principles of physiology, especially those which had been lately developed by Liebig, might be applied to the grazing and fattening of cattle. In the first place, he should endeavour to give a clear conception of what the principles of physiology were, that were involved in the feeding and growth of animals.

Vegetables, in their growth, derive all their food from the mineral kingdom—principally from the air—which had been called a gaseous nutrient, whilst animals derived their principal nutriment directly from the vegetable kingdom. Vegetables effected many chemical changes in the food they took up—animals, few.

Gluten and albumen are the nutrient principles of plants, and in chemical composition they are identical with the albumen of the white of an egg of the muscles of an ox, or the blood of a sheep. By identity was not meant similarity, but positively the same thing. The albumen of blood, of muscle, and of an egg, differ in physical but not in chemical characters. The composition of these substances, as analysed by various chemists from the animal and vegetable kingdom, as seen in the following table, prove their identity:—

	Gluten, Boscawell	Casim. Scherer	Albumen, Soube	Or-blood, Playfair	Or-flesh, Playfair
Carbon.....	51.2	51.1	5.5	54.19	64.12
Hydrogen....	7.5	7.1	7.	7.5	7.89
Nitrogen.....	1.4	15.6	15.7	15.72	15.71
Oxygen.....	24.4	23.2	22.1	22.59	21.58

These analyses do not differ more than the analyses of the same substance. Plants, in fact, contain within them the flesh of animals, and all the animal organization does in nutrition, is to put this flesh in the right place. But animals take up with their food other constituents of plants which contain no nitrogen; such as starch, sugar, gum, &c. These are not nutritive principles; they do not assist in making the flesh of animals; and when animals are fed upon these alone, they die. But animals possess a certain degree of heat, and their bodies have generally a temperature above that of the atmosphere—about 100 degrees of Fahrenheit's thermometer.

Whence then comes this heat? From the burning of the sugar, starch, gum, &c. The air that animals expire is carbonic acid, the very gas that is produced by the burning of wood or charcoal in a fire. Charcoal is carbon, and animals take in daily a large quantity of carbon in their food. It is the burning or combustion of this substance in the body, that produces animal heat. In hot countries, animals on this account, take less carbon. The food of the East Indian contains only about 12 per cent. of carbon, whilst that of the Greenlander contains 70 per cent. The depraved taste of the Greenlander, who drinks train-oil and eats tallow candies by the dozen, might be pitted or wondered at; but it is necessary to his healthy existence. Another reason for animals acquiring carbonaceous food in cold climates is, that the air is more condensed, and the same measure contained a greater quantity of oxygen; that gas being the agent which, by uniting with the carbon and forming carbonic acid, gave out the heat. Strong exercise also demands a large supply of carbonaceous food, on account of the oxygen taken in during the hard breathing thus produced. Oxygen, when once taken into the system, never escapes uncombined, and would destroy the whole fabric of the body unless a fresh supply of animal was given. Clothes, by keeping in animal heat, render less carbonaceous food necessary in order to keep the body up to its proper temperature. The following table exhibits the principles of food necessary for the two great processes of life—nutrition and respiration:—

Elements of Nutrition—Vegetable Fibre,  
" Albumen,  
" Casein,  
Animal Flesh,  
" Blood.

Elements of Respiration—Fat,  
Starch,  
Gum,

Sugar,  
Wine,  
Spirits,  
Beer,

If it were not for some power or force within the animal fabric, it would soon become a prey to the chemical action of oxygen. The force that withstands this action is vitality—a principal independent of the mind, and which constantly opposes the destructive chemical laws to which the body is subject. Disease is the temporary ascendancy of the chemical over the vital force. A dead body exposed to the action of oxygen is soon resolved into its primitive elements—carbon, hydrogen, and nitrogen, in the form of carbonic acid, ammonia, and water; and these are elements from which plants again prepare materials for the living body. These remarks will explain many facts known to the agriculturist, and will assist him in insuring more certainly many of the objects of his labours. It is very well known that cattle do not fatten so well in cold weather as in hot. The reason is this: The fat is a highly carbonised substance, formed by the animal from its carbonaceous food. In cold weather, the carbon in this food is consumed in keeping up the heat of the animal, which is at that season more readily carried off. This is also illustrated in an experiment made by Lord Ducie, at Whitehead. One hundred sheep were placed in a shed, and ate 20 lbs. of Swedes each, per day; another hundred were placed in the open air, and ate 25 lbs. Swedes per day; yet at the end of a certain period the sheep which were protected, although they had a fifth less of food, weighed three pounds a head more than the unprotected sheep; The reason of this is obvious: the exposed sheep had their carbonaceous food consumed in keeping up their animal heat. Warmth is thus seen to be an equivalent for food. This is also illustrated by the fact that two hives of bees do not consume so much honey when together as when separate, on account of the warmth being greater; and they have less occasion for consuming the honey which is their fuel. Cattle, for the same reason, thrive much better when kept warm, than when exposed to the cold.

The cause of animals getting fat is, that they take in more carbonaceous food than they require for producing animal heat; the consequence is, that it is deposited in the cellular tissue in the form of fat. Fat is an unnatural production, and its accumulation is not necessary for the health of the body. When stored up, however, it will serve the body for keeping up its animal heat, and by this means its life till it is all consumed. An instance is recorded of a fat pig having been kept without food for 160 days, sustaining life by its own fat.

Another element necessary to be taken into consideration in the fattening of animals, is motion or exercise. Every action of the body—nay, every thought of the mind, is attended with chemical change; a portion of the deposited tissues are thus being constantly consumed. It is on this account that when animals are fattened, they are kept quiet and still. The cruel practice of fattening geese by nailing their feet to the floor, and of cooking pigeons and chickens before they are killed, arises from a knowledge of this fact. When prizes were given by our agricultural societies for fat, and not for symmetry, animals were strictly prevented from taking any exercise at all. Mr. Gilders found that sheep which were kept warm and quiet, fattened much faster than those that were allowed the open air and action. It is very difficult to fatten sheep and oxen in July, on account of the flies, which, stinging them, keep them in a state of constant motion. The Cornish miners, on account of the laborious nature of their occupations, consume more food than labourers with lighter work. During the late riots in Lancashire, the poor unemployed operatives found out that exercise and cold made them hungry; accordingly they kept quiet in bed and heap upon them all the covering they could find. Englishmen in the West Indies, are obliged to take a great deal of exercise, because they will insist on eating and drinking highly carbonized foods; and the heat of the climate not allowing the escape of much heat from the body, they are obliged to take in by exercise, the oxygen of the air, in order to destroy the carbon which would otherwise accumulate in the system, and produce liver disease. In the Scotch prisons, the quantity of food given to the prisoners is regulated by the kind of work on

which the prisoners are engaged—the hardest work-ers having the most food. The reason of the flesh of the stag becoming putrid shortly after its death, arises from the quantity of oxygen which it takes into its system during the hard breathing of the chase. A hunted hare, for the same reason is as tender as one that has been kept for a fortnight after being shot. The reason is the same. In both cases, the action of the oxygen on the flesh produces approaching decomposition—in the one, quickly; in the other slowly. Bacon, on the same principle, was, at one time, rendered more delicate by whipping the pig to death. Epileptic fits produced great emaciation, on account of the violent action to which they exposed the body.

Lord Ducie has performed some experiments highly illustrative of the foregoing general principles, and which also indicated what might be expected from their application to the practice of grazing:

1st experiment. Five sheep were fed in the open air, between the 21st of Nov. and the 1st of Dec., they consumed 90 lbs. of food per day, the temperature of the atmosphere being about 44 deg. At the end of this time they weighed 2 lbs. less than when first exposed.

2d experiment. Five sheep were placed under a shed and allowed to run about, at a temperature of 49 deg.; they consumed at first 82 lbs. of food per day, then 70 lbs.; and at the end of the time had increased in weight 23 lbs.

3rd experiment. Five sheep were placed in the same shed as in the last experiment, but not allowed to take any exercise; they ate at first 64 lbs. of food per day, then 58 lbs.; and increased in weight 30 lbs.

4th experiment. Five sheep were kept quiet and covered, and in the dark; they ate 35 lbs. a day, and were increased 8 lbs.

These experiments prove satisfactorily the influence of warmth and motion on the fattening of cattle.

Dr. Playfair then stated that he should proceed to examine the different kinds of food for cattle.—The food of cattle is of two kinds—azotised and unazotised—with or without nitrogen. The following table gives the analysis of various kinds of food of cattle in their fresh state:

Lbs.	Water.	Organic matters	Ashes.
100 Peas	16	80 1.2	3 1.2
" Beans,	14	82 1.2	3 1.2
" Lentiles,	16	81	3
" Oats,	18	70	3
" Oatmeal,	9	89	2
" Barley meal	51 1.2	82 1.2	2
" Hay,	16	76 1.2	7 1.2
" Wheat straw,	18	79	2
" Turnips,	89	10	1
" Swedes,	85	14	1
" Mangel wurtzel	89	10	1
" White carrot,	87	12	1
" Potatoes,	72	27	1
" Red beet,	89	10	7 1.2
" Linseed cake,	17	75 1.2	7 1.2
" Bran,	14 1.2	80 1.2	5

A glance at this table would enable a person to estimate the value of the articles as diet. Thus every 100 tons of turnips contain 90 tons of water. But the value of the inorganic matters which these foods contained, differed. Thus Mr Rham states that 100 lbs. of hay are equal to 339 lbs. of mangel wurtzel. It would be seen by the table, that that quantity of hay contained 76 lbs. of organic matter, whilst the mangel wurtzel contained only 34 lbs.

One result of feeding animals on foods containing much water is that the water abstracts from the animal a large quantity of heat, for the purpose bringing it up to the temperature of the body, and in this way a loss of material took place. The mode of Sir Humphrey Davy, of ascertaining the nutritive properties of plants, by mechanically separating the gluten, is unobscure of accuracy.—The more accurate way is to ascertain the quantity of nitrogen, which being multiplied by 6.2, will give the quantity of albumen contained in any given specimen of food. The following is a table of the equivalent value of several kinds of food, with reference to the formation of muscle and fat; the albumen indicating the muscle-forming principle—

the unazotised matters indicating the fat-forming principle:

Lbs.	Albumen.	Unazotised matters.
100 Flesh,	25	0
" Blood,	29	0
" Pan,	29	51 1-2
" Beans,	31	52
" Lentils,	33	43
" Potatoes,	2	24 1 2
" Oats,	10 1 2	68
" Barley meal	14	63
" Hay,	8	68 1 2
" Turnips,	1	9
" Carrots,	2	10
" Red beet,	1 1-2	9 1-2

The analyses in this table are partly Dr. Playfair's and partly Bouslogant's. The albumen series indicate the flesh-forming principles, and the unazotised series indicate the fat-forming principles. By comparing this table with the former, it will at once be seen which foods contain not only the greatest quantity of organic matter, but what proportion of this organic matter is nutritive, and which is fattening; or that which furnishes living tissue and that which furnishes combustible material. In cold weather, those foods should be given which contain the larger proportion of unazotised matters in order to keep up the heat of the body. Thus it will be seen that potatoes are good for fattening, but bad for fleshing. Linseed cake contains a great deal of fattening matter, and but little nutritive matter; hence, barley meal, which contains a good deal of albumen, may be advantageously mixed with it. Dumas, a French chemist states that the principles of fat exist in vegetables, as in hay and maize, and that, like albumen, it is deposited in the tissues unchanging. But Liebig regards fat as transformed sugar, starch, gum, &c., which has undergone a change in the process of digestion. This is why Linseed cake is fattening; all the oil is squeezed out of the seed, but the seed coat, which contains a great deal of gum, and the starch of the seed is left, and these are fattening principles. The oxygen introduced by respiration into the lungs, is destined for the destruction of carbonaceous matter, but there is a provision made for taking it into the stomach with the food, and this is done by the saliva. The saliva is always full of bubbles, which are air bubbles, which carry the oxygen of the atmosphere into the stomach with the food. The object of rumination in animals is the more perfect mixing of the food with the oxygen of the air. This is why chaff should not be cut so short for ruminating, as for non-ruminating animals, as the shorter the chaff is, the less it is ruminated, and the less oxygen it gets. Chaff is cut one inch for the ox, half an inch for the sheep, and a quarter for the horse. Some might in consequence of this, suppose that cutting food is then of little use; but when it is considered that rumination is a strong exercise, or that an animal will not be eating more food that is ruminating, it will easily be seen how cutting facilitates fattening. In order that food may be properly ruminated, it requires a certain amount of consistency and bulk; hence all watery foods, as turnips and mangold wurtzel, should be mixed with straw. The opinion is very correct, that an animal "cannot chew its food without straw." An important inorganic constituent of food is salt; it is a chloride of sodium. While the chlorine goes to form the gastric juice, which is so important an agent in digestion, the soda goes to form the bile, which is a compound of acids. The bile is, in fact, a secondary combination, by which the carbonaceous matter is brought in contact with oxygen, in order to be burnt. It is thus that common salt becomes so important and necessary an article of diet. In the series of changes by which the oxygen of the air is brought in contact with the carbonaceous matters in the body, iron plays an important part, and is hence one of the necessary ingredients of animal food.—There are two oxides of iron—the peroxide and the protoxide; the first containing a large quantity of oxygen, the second a smaller quantity; the first, on being introduced into the blood, gives up a portion of its oxygen to the carbonaceous material of the bile, carbonic acid and protoxide of iron being formed; these two, unite, forming a carbonate of the protoxide of iron, which on being carried to the lungs, gives off its carbonic acid, and the protoxide of iron absorbing the oxygen brought into the organs by respiration, forms again a peroxide, which again

goes into the circulation, and meeting with carbonaceous matters of the bile, unites with them, and produces again and again the same series of changes. The small quantity, then, of inorganic ingredients in the food, performs very important functions; and in the absence of them, animals would die.

REMARKS BY THE EDITOR OF THE N. E. FARMER.—The preceding article we gladly lay before our readers, believing they will take much interest in seeing the course which scientific men are taking, in the hope of doing good service to agriculture and to man. The experiment with sheep, which shows that quiet and warmth are favourable to growth, and may be in part a substitute for food, shows nothing different from the result to which observation has long since led many a common farmer; but the why—the reason, has not been known. This reason according to Liebig, is, that in cold weather more of the carbon of the food is required to keep up the animal heat; and also that when in exercise, more of the carbon must be consumed, because more oxygen is taken into the system by the quicker or deeper breathing;—this rapid consumption would soon raise the animal heat too high, were there not provision for letting it off through the skin and other ways. What is thus let off is wasted, so far as relates to growth. From the experiment we learn nothing but the reason of results which have long been known.

The tables in the above article give us valuable information as far as it goes; and it gives hope of something more. The whole article, however, stops where we wish science to lead us. We are told how many pounds of matter there are in an hundred pounds of potatoes, that will go to make muscle or flesh as distinguished from fat; also how many pounds that may go to make fat. All this is well. But there are other things the action of which is not told, viz. the water and the ashes—or rather the salts in the ashes. Does the water in potatoes have upon animals precisely the same effect as would be produced by the same quantity of pure water drunk in separately?—and what salts are found in the ashes of each kind of food—in what quantity, and what is their effect upon the animal that consumes the food? These are questions not yet answered, but which must be answered before chemistry does all that we ask at her hands.

Taking the water from the articles named in the foregoing tables, and calling the remainder of equal value as food, pound per pound, the calculation, if we have made no mistake, would show results nearly as follows.

	Bushels.
100 lbs. of hay equal in worth to potatoes	5
" " " " turnips	14
" " " " beets	14
" " " " white carrots	12
" " " " ruta bagas	10
" " " " oats	3
" " " " barley meal	2

	cents.
Potatoes will be worth per bushel,	16
Turnips, " "	53
Beets, " "	53
White carrots, " "	63
Ruta bagas, " "	8
Oats, " "	27
Barley meal, " "	40

These figures would make hay the most economical food. Particularly, however, hay will not be so valuable comparatively, as it appears here.—This may be owing in part to the fact that a portion of the hay passes through animals undigested, and in part, perhaps, to the quantity and character of its salts. The animal's stomach will often do its work much less thoroughly than the chemist's crucible, and we should expect the chemist to find more nutriment in hay and oats than the animal can exact. The opinion of Dr. Playfair that 6 bushels of turnips may be equal in value as food, to pounds of hay may be near the truth—but we should think that the hay would be found worth a little the most; we would take seven bushels.—Our table values then will be—

100 lbs of hay equal to potatoes,	2 1/2 bushels,
" " " " turnips,	7
" " " " beets	7
" " " " white carrots,	6
" " " " ruta bagas,	5

The hay being at 80 cts., we shall have the following:

Potatoes	worth	32 cts. per bush.
Turnips	"	11 1/2 "
Beets	"	11 1/2 "
White carrots	"	13 1/2 "
Ruta bagas,	"	16 "

From this it will follow, that among the roots (7) potatoes will be most profitable in those sections of the country where the crop is usually a safe and good one. But on many farms, the 5 bushels of ruta bagas can be produced at less expense than the 2 1/2 of potatoes. On many farms, also, the 6 bushels of white carrots will cost not more than the 2 1/2 of potatoes.

From the tables in the article above, it will appear that for fattening, potatoes are best; while for giving muscle and strength, they are the poorest. Carrots and barley meal are best for working animals among the substances named.

We wish some competent chemist would give us the analysis of Indian meal and of ruta bagas. We will venture the prediction, from observation, that the ruta baga will be found best of all the roots for giving muscle—that they are best for working animals. But the analysis will not satisfy us until we find what the ashes contain. The salts, probably, have much greater action, in proportion to their quantity upon the animal system, than do the organized matters in the roots. Let chemistry show us their constituents and operation, and we can the better judge whether its teachings are supported by our experience.

THE FARMER'S LIFE.

From the Olive Branch.

The farmer's life is an ancient life  
For Adam once tilled the land;  
When turned out of Eden and sent to toil,  
He gathered his bread from the fruitful soil,  
By labor of his own hand.

The farmer's life is a toilsome life,  
It passes in work away;  
He brushes the dew from the early grass,  
And never once heeds how the hours pass,  
Till he finds the close of day.

The farmer's life is a noble life,  
He is lord of all the land;  
He reigns like a king on his rural throne,  
And the hills and the vales he calls his own,  
Where he issues his command.

The farmer's life is an easy life,  
He inhales the wholesome air,  
From the morning dews and the evening breeze,  
And a medicine finds for all disease—  
An antidote sure is there.

The farmer's life is an easy life,  
He lives by the fertile soil;  
When he casts his eye o'er his wide-spread field,  
He knows very well it will always yield!  
Returns for his constant toil.

The farmer's life is a merry life,—  
No merrier man than he,—  
With the lark he rises at early dawn,  
And goes to his work in the fresh cool morn,  
As merry as man can be.

The farmer's life is a pleasant life,  
Surrounded by fruits and flowers;  
In rich blooming meadows and fields all day,  
He passes, in labor, his time away,  
Or rests in his cool green bowers.

The farmer's life is a useful life,  
As pleasure to all it gives;  
By him we are clothed, and by him we're fed,  
And to him we look for our daily bread—  
For the public good he lives.

The farmer's life is a favorite life,  
It is free from noise and strife;  
And plenty and pleasure supply his cot,  
There's nothing he wishes he has not,  
Then give me THE FARMER'S LIFE. [S. V.]



To the Editor of the British American Cultivator.

MR. EDITOR,—It needs no conjurer to tell that the issue of the present movement in England will be Free Trade in Corn, and the result, that the Canadian farmer will have to face the markets of the world without favour. Now, has he anything to learn from this abrogation of monopoly, and consequent free admission of grain from all parts of the world into the ports of Britain? As one of the class, I do not apprehend he has. And this is the view I take: the price of grain in Canada has always hitherto been ruled by the price in the United States; for example, in 1835 and '36 wheat was down to 5s. sterling per bushel in England, but the price during that period was enormously high in the United States and Canada, and all other sorts of agricultural produce were in proportion; in 1840 and '41, wheat averaged 8s. 14d. sterling, per bushel in England, but the price was extremely low in the United States and Canada. The moment the price rises in the Union, there is a corresponding rise in Canada, and vice versa. Now, how would the free admission of foreign agricultural produce into the United Kingdom affect the prices of such produce in the United States, and consequently Canada? It would certainly not depress them, but it had any influence it would rather enhance them, by opening out a new market for the produce of the Western States, by way of New Orleans, instead of forcing it by a northern route upon Canada, as it has been. At all events I cannot see that the repeal of the English Corn Law is likely to make prices in Canada lower than they have been for a series of years past. But perhaps the expediency of "protecting" the Canadian farmer may be urged, that is to say—that such duties should be levied on the importation of American produce into Canada as would increase prices to the farmers of this province, by restricting the supply of such produce. Now, admitting the right of agriculturists to such protection, it could only tend to the increase of price so long as Canada was unable to grow a sufficient quantity for her own population; but by and bye, when she became an exporting country, and had a large surplus to dispose of, as she would have no better opportunity of doing so than the United States would possess, she would either have to sell at their prices or deluge her own markets, and the consequence would be no other than the levelling of her prices with those of the United States. But as we can only see Canada as an exporting country in prospect, I will suppose that in the meantime the farmers of Canada should demand the imposition of a protective duty on the importation of American produce, in order that prices may be increased here—say by twenty per cent. How would the non-agricultural classes endure this? they would say (and with justice, too), very well; you oblige us to pay twenty per cent. more on an average of years for our food than we would otherwise do, and you cannot deny our right to a similar protection—if it is good for you, it is good for us. As manufactures sprung up, the cloth-maker, the hardware and machine-maker, and every other branch of industry pertaining to a civilized people, would demand a similar protection. Now the end of this universal protection would just be universal dearness, and what advantage would it be to the farmer that he should sell dear in order to buy dear? If he now gives a bushel of wheat for a yard of cloth, when the wheat and cloth are respectively increased in price twenty per cent. where is the farmer's advantage? The easiest way to arrive at each a state of things would be, to discharge the currency at once. Would I discharge all duties then? No, this is manifestly unpracticable—duties, for the sake of revenue, must be had, but they ought to be fairly exacted, that is,

they should press upon all classes and interests of the community as equally as possible. But this has not been the case hitherto in Canada, and we are yet far from such a consummation. The former is placed in an unfair position, as a reference to the Tariff will show, but just now I will not occupy more of your space, but shall likely recur to the subject in your next number.

WM. ELLIOTT.

London, Canada West, Aug. 14, 1843.

### CAUSE OF, AND CURE FOR HARD TIMES.

BY AN OLD FARMER OF 1788.

I profess myself to be an honest farmer, for I can say that no man could ever charge me with a dishonest action. I see with great grief, that all the country is afflicted as well as myself. Every one is complaining and telling his grievances, but I find they do not tell how their troubles came on them. I know it is common for people to throw the blame of their own misdeeds on others, or at least to excuse themselves of the charge. I am in great tribulation; but to keep up the above character of an honest man, I cannot in conscience say that any one has brought my troubles on me but myself. "Hard times—no money," says every one. A short story of myself will show how it came so to be hard times with me, and no money at the age of sixty-five, who have lived well these forty years.

My parents were poor, and they put me at twelve years of age to a farmer, with whom I lived till I was twenty-one. My master fitted me out with two stout suits of homespun, and four pairs of shoes. At twenty-two I married a wife—a very good young woman she was. We took a farm of forty acres on rent. By industry we gained fast. I paid my rent punctually, and had by money. In ten years, I was able to buy myself a farm of sixty acres, on which I became my own tenant. I then in a manner grew rich, and soon added another sixty acres, with which I was content. My estate increased beyond all account. I bought several acres of outland for my children, who amounted to seven, when I was forty-five years of age. About this time, I married my eldest daughter to a lever lad to whom I gave one hundred acres of land. This daughter had been a working dutiful girl, and therefore I fitted her out well and to her mind, for I told her to take of the best of my wool and flax, and to spin herself gowns, coats, stockings, &c., nay, I suffered her to buy some cotton to make into sheets, as I was determined to do well by her. At this time my farm gave me and my whole family support on the produce of it, and left me one year with another one hundred and fifty dollars, for I never spent more than ten dollars a year, which was for salt, nails, &c. Nothing to wear, eat or drink was purchased, as my farm provided all. With this saving, I put my money to interest, bought cattle, fattened them and made great profit.

In two years after, my second daughter was courted. My wife says, "come, you are now rich; you know Molly had nothing but what she spun, and no other clothing has ever come into our house for any of us. Sally must be fitted out a little; she ought to fare as well as neighbour N's Betty." "Well, wife, it shall be as you think best. I have never been stingy, but it seems to me that what we spun at home would do." However, wife goes to town in a few days, and returns with a calico gown, a calico petticoat, a set of stone tea cups, half a dozen pewter tea spoons—things that were never seen in my house before. They cost but little—I did not feel it—and I confess I was pleased to see them. Sally was

as well fitted out as any girl in the parish. In three years more, my third daughter had a spark, and wedding being concluded upon, wife again comes for the purse: but when she returned, what did I see? a silken gown, silk for a hat, a looking glass, china tea gear, &c., and a hundred other things, with the empty purse. Then followed family jealousies and quarrels—Molly ought to be fitted out as well as Betsy. Good homespun and cotton fixens were ruled as vulgar, and white feathers and silks must take their place; Sal's husband must speculate in stocks, backed by my endorsement; but he had all the fun of speculating, and all the miseries of paying. Then children came tumbling into the world, and Grand Pa must be their treasury department for all things needful. Nothing was heard but arrangements for journeys, balls, parties, and such like.

In about a year, Bet's husband made a mistake, and signed somebody else's name to a cheque, instead of his own—he was arrested, and sent to jail, and I had to spend half of my hard earnings to get him out. Sal's husband died, after leaving a legacy of nine children, which, with the mother, I've got to support. Bet's eldest boy was trained for a doctor—took his degree, and sent his six first patients out of the world by improper treatment. For this he had to fly the land, leaving his dear incumbrance *attache's* on my purse. I could fill your paper with further particulars, but that might not be so agreeable to your readers. I will only say, in regard to hard times, let every man exercise the ability nature has given, in his proper and prescribed sphere—let contentment reign within the breast, nor envy reach its threshold. Regard not the apparent glitter of thy neighbour, nor aim at an equality beyond your comprehension; live more to please yourselves, and less to please other people—be frugal, industrious and just. Bring your ideas down to a proper level, nor let them be disturbed by bad example. So shall you avoid the mishaps I have experienced in family matters, and rejoice in old age over a life well applied, with just here for peace hereafter.—*Boston Cultivator.*

### AMMONIA.

Every day seems now to produce evidence that ammonia—that long-neglected but almost omnipresent substance—is one of the most important of all the elementary matters provided for the use of man. Formed instantaneously, wherever hydrogen and nitrogen can come in contact in a nascent state,—floating in the atmosphere,—hiding in the imperceptible cavities of all porous bodies, or dissolving in water, it necessarily mingles with the food and breath of animals and plants,—entering into their composition, or furnishing them with some of the indispensable elements of nutrition. Repeated experiments show that the strength of manure is in proportion to its abundance; that the vigour of plants is intimately connected with its presence, as their debility is with its absence; and that, if employed in a proper form and fitting condition, it promises, almost alone, to give a new arm to the arts of cultivation.

But it is not in all or any state that it is found to be thus heroic; when caustic, it seems to carry death instead of vigour in its train. Even when in such combination with other forms of matter as to lose a part of its natural causticity, it requires to be administered with great caution, for it still approaches the pure state in its tendency to do mischief. No doubt, it is the neglect of attention to these circumstances which has led some observers to believe that ammonia is deleterious instead of beneficial to plants. But it is more especially the animal kingdom which suffers under the influence of ammonia in the caustic state. Pure ammoniacal gas, water of ammoniac, and the carbonates of this substance, including even the common salubrious of the shops, are all irritating poisons, more or less energetic. Although used medicinally, it is only in small doses, and under particular circumstances.

From some experiments that have lately been made, ammonia, in the caustic state, appears likely to be of considerable importance to Gardeners, on account of its fatal action upon animal life. It has lately been ascertained by Mr. George Gordon, the Superintendent of the Hardy Department in the Garden of the Horticultural Society, that the ammoniacal liquor of the gas-works, diluted with water, is a certain remedy for the green-fly, which has been so unusually abundant during the present year. He has found that although gas-water in its undiluted state burns foliage whenever it touches it, yet that plants do not suffer from it when considerably weakened with water. It appears that when the London gas-liquor is mixed with ten times its measure of water, and applied with a syringe to the parts of plants infested with the green-fly, it causes so speedy a destruction of those insects that the greater part disappear after the first dose, and a second application is sufficient to clear away all the remainder. Upon mentioning this discovery to a person whose garden was four days since in the most deplorable state from swarms of green-fly, he ordered his gardener to repeat the experiment with gas-liquor weakened with twelve times its measure of water; this morning, upon looking over the bushes, it is scarcely possible to detect a living individual; the leaves are green, and much refreshed by the operation: the syringing was only used twice.

The ammoniacal liquor of the gas-works being thus proved to be fatal to aphides, it becomes an interesting question whether or not ammonia cannot be employed with equal success in other cases, either as it is found in gas-water, or in the state of the carbonate and subcarbonate; and this is an inquiry that we commend to experimental gardeners. All we can at present state upon the subject is, that if flies and other insects, including beetles, are put into a dry tube containing a small quantity of smelling salts (subcarbonate of ammonia), they fall to the bottom in a few minutes after having been exposed to the vapour, and then perish; that green-fly thus treated becomes yellowish in a short time, and then dies, just as if it had been washed with gas-water; and that even the gooseberry caterpillar, which for a long time resists the action of gas-water strong enough to kill the green-fly, cannot exist in a tube containing a little smelling-salts.

In these instances we apprehend that the effect is due to the volatile vapour of the ammonia, and to nothing else; for when aphides are plunged into weak gas-liquor, their death does not appear to be hastened by that operation; on the contrary, when exposed in a tube to the vapour of carbonate of ammonia, they died even faster; and caterpillars floating in the weak gas-liquor lived longer than when compelled to inhale its vapour. In all cases the insects make vehement efforts to escape, so that no doubt can exist of the ammonia producing immediate inconvenience and a sense of danger. If a saucer is only moistened with weak gas-liquor, and the gooseberry caterpillar is thrown on it, the creature becomes immediately convulsed, and throws itself violently backwards and forwards, after which it becomes half torpid. The caterpillars do not, however, die, unless exposed to the influence of the ammonia for some time.

As we foresee that many inquiries will be made as to the proper proportions of gas-liquor and water that ought to be employed, it is as well to anticipate them by saying that it is impossible for us to answer such inquiries except in general terms. Everybody must ascertain the fact for himself, by mixing gas-liquor and water in various proportions, and trying their effect in a small way in the first instance. The fact is, that the quantity of ammonia contained in gas-liquor is extremely variable, the gas-works making it of no uniform strength. That used by Mr. Gordon, and by the gentlemen above alluded to, was very strong; effervescence not ceasing in an ounce of it until 50 drops of the sulphuric acid of the apothecaries had been added. Those who wish to determine the relative strength of that which they employ can do so by a very simple process; take one fluid ounce of the gas-liquor to be employed, and add to it, drop by drop, such sulphuric acid as may be bought in the apothecaries' shops, until effervescence ceases; and then, supposing, they find this to occur after 25 drops have been added, they will know that their gas-liquor is only half as strong as that used by the

Horticultural Society; and consequently, instead of adding ten parts of water to one part of gas-liquor, they must only add five parts to obtain the same strength, and so on. It is true that this is not a very exact proceeding, because the sulphuric acid of the apothecaries itself varies in strength; but we conceive it to be quite sufficiently exact for gardening purposes.

There is one important advantage that is obtained by this process—namely, that, independently of killing the green-fly, the plants are well manured by the same operation; so that nothing is lost.

When gas-liquor cannot be had, or where its offensive odour is inconvenient, we should try the effect of carbonate of ammonia dissolved in water, in the proportion of one ounce of the carbonate to a pint of water. This would form a solution of about the strength of London gas-liquor, and might then be lowered with ten proportions, or, as none of the ammonia is uncombined, with 8 proportions of water.—*Gardeners' Chronicle.*

### ICE HOUSES.

From the Dollar Farmer.

The following description of the manner of erecting ice houses we select from the Farmer's Gazette. Having ourselves witnessed the superiority of houses constructed in this manner, we can recommend them as far superior to the underground houses, which are usually found in this section of country.

The most powerful agent we have to contend with in preserving ice is dampness, which arises from the gradual melting of the ice, and that which the atmosphere naturally contains. There is more difficulty in excluding this than warm air from the ice. It is of the first importance therefore to locate your building in a spot divested of trees and exposed to a free circulation of air. It should not be in a cellar, nor sunk in the earth, nor walled up with stone, for such locations are inevitably damp, independent of the vapour arising from the ice.

Erect a plain wooden building of eight or ten feet, posts entirely above ground. Size according to your wants. The outside covering of boards and planks, placed perpendicularly with battens over the joints. The inside boarded up, clap-board fashion, lapping on each other to prevent the water from running into the filling, which should be of charcoal if to be had, if not, well dried tanner's bark may answer, but will need renewing occasionally. The filling should be put in as the inside boards are put on, or as may be most convenient, leaving places for the purpose open. The floor of three or six inch plank, high enough from the ground to allow a free circulation of air, and descending enough to drain off the water which drips from the ice, with ribs of narrow boards to keep the ice above the water, and holes in the inner side to let out the water as it flows down, and a good drain to convey it away from the building.

Let there be a moveable floor above the ice, that there may be but little vacancy between that and the ice when the house is filled. Let the floor down as the ice is dissolved or removed. On the floor lay dry rye straw, two or three feet thick, make a hole in the centre of the floor, with a trap door large enough for convenience to put in the ice, and to go in and out. Let two opposite sides of the building be boarded down to the ground, the other two open to admit a draft of air to convey off all the dampness.

Thus your ice is thoroughly shielded from dampness and warm air, which is all that is desired, and with proper care in going in and out during the summer, you will have this great luxury and necessity of life in perfection; provided you put up good solid ice.

The largest and most complete ice houses of which we have any knowledge, are those on the Hudson river, from which New York city is furnished with a most elegant article of Rockland county ice.

How many there are who will ask God to bless the poor, when they would not take a shilling from their pocket to save them from starvation! We have too much of this sort of piety.

From the Albany Cultivator.

**ASHES FOR PEACH TREES.**—We advise our readers who have peach trees, to place ashes around them at the surface of the ground, not leached, but new ashes. And they will do no harm if put around quince, pear or apple trees, since all of these are more or less subject to the attacks of worms at the surface of the earth, and ashes are found to be one of the best preventives of the borer, as well as one of the best auxiliaries to the growth of the tree. For the quince bush, we have found nothing equal to blacksmith cinders and coal ashes; and those who have these materials, may turn them to good account by this use of them. The ashes should be applied two or three times in the course of two summer, commencing in June.

**SMOKING ORCHARDS.**—In the last number of the Journal of the Royal Agricultural Society, is an account of a successful mode of preserving orchards from the caterpillar, &c. by smoking them. The smoking is done by placing a large iron kettle on four low wheels, and putting in it dry wood, weeds, rubbish, and some brimstone, and kindling it with a bellows, which drives a strong and continual stream of smoke through a moveable tube, to every tree, and every part of a tree in succession. The smoking being commenced on the windward side of the orchard, and followed row by row, the moth and apple weevil, and black apple fly, will be driven out and the crop saved.

**CURIOUS HORTICULTURAL FACT—THIRD CROP APPLES.**—The following is an extract of a letter received at the office of the *Phil. Forum*, from Portsmouth, Ohio. The apples sent, were exhibited deservedly as a curiosity:

"My June apples were ripe on the first of June, and in blossom for a second crop which ripened the last of July, with blossoms for a third crop which ripened the last week in September—at which time the tree was in blossom for the fourth time—the fruit was blighted by the frost when the apples were of the size of a robin's egg. A few bunches of blossoms were observed on the tree in the beginning of November. An opportunity offering, I send you three apples—the bottle being small, I had necessarily to send you small apples—but they will serve as specimens of a great natural curiosity. My June apple tree, which blossomed five times last year, and yielded ripe fruit three times, is again covered with blossoms thicker than ever this spring."

**LICKON CABBAGE.**—Maj. S. has lately succeeded in destroying the lice on cabbage and other plants, by sprinkling them with a strong decoction of tobacco, walnut leaves, and the leaves of the pride of China.

Pendleton, S. C. Aug. 5, 1843. J. B. S.

**THE PLECK CURED BY SALT.**—Capt. Lovett of Beverly, informs Mr. Hovey of the Magazine of Horticulture, that by applying about half a peck of salt around each tree, spreading it as far as the branches extend, he, as well as many others who have tried it, have saved their fruit from this insect. The time to apply it, is about the first of June.

**MILDEW ON GOOSEBERRIES.**—The great difficulty with which gooseberry growers in this country are obliged to contend, is the mildew, which in most cases renders the imported varieties worthless. The Farmer's Gazette states that the mildew is prevented by sprinkling fine salt around the bushes, or where it can be had, by placing sea weed around them. Watering with soap suds, before the fruit forms, and using compost for manures, is also good.

**GOOD COWS.**—Mr. E. D. Allen, of L. Ray, Jefferson Co., N. Y., made, in the months of May and June, from his dairy of ten cows, eight tubs of butter, weighing eight hundred and seventy-two pounds, (nett weight) being a fraction short of forty-four pounds per month per cow on an average. The Jefferson dairies are not likely to lose their high credit this year, if Mr. Allen's be taken as a sample.

## PRINCIPLES OF VEGETATION AND TILLAGE.

By the late JOHN YOUNG, Secretary of the Provincial Agricultural Board, and Honorary Member of the Massachusetts and Montreal Agricultural Societies.

## ON MANURES.

There has been no point perhaps in agricultural science more keenly contested than the exact degree of fermentation to which dung should be exposed, before it be spread on the soil. Some argue, that it should be allowed to rot till its original texture be broken down and destroyed; others, that the process should be carried a considerable length, but checked about the middle of its course, while a third class allege, that the least incipient state of putrefaction is at the expense of the vegetable gases, and should as much as possible be prevented, till the manure be deposited in the earth. Amidst such a contrariety of warring and discordant opinions, and these too supported by naturalists distinguished for the extent and importance of their discoveries, some portion of doubt must adhere to whatever determination we adopt. Sir H. Davy—a name of pre-eminent celebrity—contends that the smallest degree of fermentation is accompanied with setting at liberty the elementary principles, which will naturally escape, unless their disengagement be effected in the bosom of the soil—in which case they will be imbibed and kept in reserve for the purposes of vegetation. He thinks, therefore, that straw in place of being put in the dung-yard, should be ploughed down in a fresh state, and that to facilitate its mixture with the earth, it would be advisable to chop it small with a machine. The conductor of the *Farmer's Magazine*, although inspired with due respect for the conclusions of that celebrated chemist, openly opposes this violent innovation on the common practice of the farmer, and asserts, from a long experience, that unless a certain degree of putrefaction comes on in the yard, while the putrescible substances are recently voided possessed of natural heat, no subsequent fermentation will take place in cold and clayey soils. He has known dung and litter, which had been turned down fresh in the furrow, appear next spring without any visible change. Of course, it must have laid dormant without contributing to the growth of the plants. He states, in support of his own views, an experiment that was tried at the suggestion of a speculative writer:—Dry wheat straw was regularly laid in the hollows of dris; and potatoe sets planted above the straw. It then were then covered with earth; but very few potatoes ever came above the ground, and these only towards the end of autumn. When the field was afterwards ploughed, the straw seemed to have undergone no change; nor did it convey any sensible benefit to future crops.—Had the same straw been previously subjected to only a moderate fermentation in the dung yard; there can be no doubt but its effect would have been very different. Truth, says the common adage, lies between; and in all extreme cases it is safest to steer a middle course.

It is necessary, however, to remark that the pushing of the putrefactive process to the last stage, and suffering the dung to ferment till it falls down into the black earth, is the most culpable and gross violation of all just agricultural principles, and is now condemned in England with merited reprobation. Long before animal and vegetable substance come to this advanced state of putridity, the nutritious exhalations are gone, and have mingled with the great and imperishable elements of the universe. All that remains is the carbonaceous matter, which is scarce a sixth part of the original bulk in value. I have myself seen, in more than one part of the province many barns surrounded with this decayed earth, the residue of much profitable manure; which was permitted there to go to waste, partly from carelessness, sometimes from ignorance, but generally from a supine and immovable indifference about their rural affairs. Such are the blessed effects about our boasted grazing system; and of villifying and contaminating the plough.

This controversy has lost much of its importance since the invention and use of compost. Fermentation, that great destroyer of an organic combination, is not to be feared by the farmer, if it

be conducted and carried on in the presence of earth, which fixes and secures the gases as fast as they are liberated. Even the degree of the process is a matter of less consequence; because, if the elementary principles are in keeping, and reserved for future usefulness, it is immaterial, whether this has happened by a new absorption, or by still holding their original and unchanged form. In the composite hull the whole animal or vegetable structure may be dissolved, and leave behind no trace of existence, without the least waste of the principles of fertility; because the ingredients superadded to the dung have become surcharged with them, or to speak philosophically, saturated. We may go further and state, that complete decomposition is desirable in this case which is so much to be avoided in the farm-yard; because putrescent matter can only become vegetable food by its resolution into primary parts, and it is to be effected by any preparatory step, the young crop receives the full and instantaneous benefit. The compost manure is carried to the field ready to give out its richness on the very first call, and to supply the nascent radicle with a copious share of nourishment.

I believe I have more than once stated that the diversified tribes of the vegetable kingdom are sustained by the circulation of the sap taken up by the absorbent mouths of fibres. This sap, which is extruded from the soil, holds in solution either the primary or secondary principle of bodies. Whatever, then, is soluble in water, or can be rendered so by the action of chemical laws, combines with the sap and enters into all the interior recesses of the vegetable structure. Both solid, fluid, and gaseous bodies are susceptible of solubility, and of course contribute to the sustentation of plants. Sugar and sugar which are solid, jelly which is fluid, and ammonia, hydrogen, and carbonic acids which are gaseous, are all soluble in water, and are besides the extracts of vegetable matter; and these by the sap may be drawn in as nourishment, and either transformed by the secretory organs into new compounds, or are still further analyzed. The sap then is the stream of vital life, and the more it is saturated with nutritive particles the more luxuriant and vigorous the growth. But it can only be saturated by the dissolution of animal and vegetable bodies, and therefore the more perfect the decomposition, provided the constituent principles have not escaped, the richer the manure. Hence a compost hill may remain for years before it is applied and be turned over several times to bring on successive fermentations, not only without injury but with manifest advantage; while the simple dung of animals treated in the same manner would become entirely useless and inefficient.

The putrefactive process may be carried on in the presence of pure earth only, or of the earth, intermingled with fibrous roots, or lastly, in the presence of peat, which is an assemblage of inert vegetable matter.

The simplest of all composts is a mixture of bran and yard dung, and surface mould taken from a field under regular culture. The proportions between the ingredients are fixed by no determinate laws, and consequently great liberty is allowable to the operator. I have known some instances, where two carts of dung were used for one of earth, others, where they were blended in equal quantities, and it is not infrequent to compound two carts to one of dung. In fact, such is the uncertainty in the composition, that almost every farmer adopts a mode peculiar to himself, and with equal success. No man need therefore follow implicitly the rules laid down in his department of rural economy, but may vary and multiply his experiments, according to the suggestions of fancy or the dictates of convenience. If we slightly glance at the principle, we shall see the cause of this seemingly endless variety in the combination of the ingredients. The other use of intermixing the soil with the dung is to imbibe the gaseous elements of vegetable life, and hinder their dissipation. If there be much soil, these elements will be diffused through it with less density and compression; if little, it will be more abundantly saturated and enriched with the utero vapors. Thus, an ounce of sugar may be dissolved equally in a pint or in a gallon of water; and the muriatic acid may be so much diluted as scarcely to exhibit its characteristic properties; and in the same way, the

products of decomposition may either be concentrated into a small portion of earth or scattered over a large body. The only error into which the farmer can run, is to supply such an inconsiderable quantity as will be incapable of imbibing the elastic and volatile particles, and thus by his own mismanagement, occasion a waste of the vegetable aliment. One cart load of soil to two of stable dung is the least proportion which he should ever attempt to combine, and perhaps if the two were mixed equally, he would be compensated for the additional labor and expense.

The whole art of composing, is to arrange the materials in alternate layers, to shake the litter and dung with a hay fork that it may lie loosely, to cover the top and the sides with earth, and give it a sloping direction that it may cast off excessive moisture. Its height should never exceed four feet, or four and a half; and its breadth should be such, that a man on either side, may be enabled to fling the ingredients into the centre without trampling on the heap: for compressions in all cases retard the putrefactive process. If the mass, after being compounded, is long in generating heat, urine, salt, or even fresh water poured on the top slowly, that it may ooze downward, will bring it on with rapidity. On the other hand, should the process advance with too great violence, which can always be known by keeping a stick in the middle, and drawing it out occasionally for trial, the fermentation must be restrained by turning over the dung hill, and mixing anew the ingredients. This will not only put a stop to the mischief, but facilitate a second fermentation; and as fresh particles of earth will be brought into contact with the decomposing matter, the whole will be enriched and impregnated with the fertilizing principles. These general principles are applicable to every species of compost, and need not again be repeated.

## AMATEUR FARMING.

From the *Gardener's Chronicle*.

There is a very common idea that arable land is troublesome to manage, and leads to expense and loss, when it is not in the hands of a very experienced farmer; and so it is, when there is such an extent of it as may be called a farm. Very few gentlemen who occupy arable land find that they have a profit at the end of the year, allowing for rent, taxes, labour, &c. But a very few acres of a moderately good soil, occupied with a greater extent of grass land, may be very valuable, to a man who keeps horses for his pleasure, and cows, sheep, and pigs, for the use of his family. In the country, a horse and cart is extremely convenient, if not an essential part of an establishment. This horse may be used in a four-wheeled carriage, alone or with a companion, and it will be no detriment to him, whether it be a degradation or not, to draw green food for the cows and to transport manure into a field. He may now and then draw a light plough or harrow, or a horse-hoe; and if he is not wanted every day for transporting his master or some of the family from place to place, he is better occupied in light farm-work than in standing idle in a stable. In a larger establishment, where a regular carriage is kept, an odd horse is very useful, such a horse as may be substituted for one of the carriage horses, in cases of his being lame or wanting a dose of physic; at all other times he is a cart-horse.

The quantity of arable land we would suggest as useful and profitable, in addition to twenty or thirty acres of grass, should not exceed ten or twelve acres, and be chiefly cultivated for green crops—that is roots, cabbages, and artificial grass, to be used as fodder. If corn is ever sown, it must be under peculiar circumstances, for the wheat raised by gentlemen is often dearer than that which is bought in the market; but crops of roots to feed cattle are a great saving of hay and straw in winter, and greatly increase the manure; whereas they cannot be readily purchased, and are heavy to carry to a distance; they require more frequent manuring, but they thus gradually improve the fertility of the soil. Suppose, then, ten acres of a good mellow loam, worth £2 an acre to let to a farmer, at a distance from a great town, and the other burdens amounting to 10s. more per acre; here is a rent of £2:10s. per acre. It may be judicious, at first, to get some neighbouring farmer to plough the whole as deep as possible,

and to pulverise it with harrows and scarifiers, after which the whole of the work should be finished with forks, spades, and hoes. It is presumed to be on a porous subsoil; if not, it must be closely underdrained with stones or tiles before any other operation. This necessity will make its original value less than we supposed above; but the result will be the same, if we add the interest on the expense of draining to the original rent. The field should be divided and cropped as follows:—One acre planted with potatoes, one acre sown with beet or mangle wuzel, one with swedish turnips, three with rye and tares, sown at different times; if the ground is not too heavy, one acre may be in carrots, one planted with cabbages, and two acres with Lucerne. This last will continue for many years if the soil is deep and mellow, and if the crop is weeded every time it is cut. As fast as the tares are cut green for cattle, the ground is hoed by hand, and white turnips are sown in rows. The winter tares and rye will be ready to cut in May, and the ground may be hoed over and raked, and liquid manure may be poured over it, before the turnips are sown, which will be by the end of the month or early in June. Swedes, turnips may yet be sown to advantage, or the globe, or red round turnips. Later in the season a smaller and quicker-growing sort may be sown at the end of August. By a little attention to the succession of the different crops the ground may be kept continually in a productive state; and as all the produce can be consumed at home, the land will always have returned to it, in the shape of manure, all that is drawn from it; no plants, depending their seeds in it, there will be very little exhaustion, and the fertility will be continually increasing.

If it be asked what is to be done with all this produce for cattle, for, except potatoes, no food is raised for man,—we will readily answer, there is no fear of any difficulty: if the stock is not sufficient to consume the produce, it is easy to increase it. We suppose a considerable quantity of pasture land; this will keep sheep and young cattle in summer, and the roots, cabbages, &c., will keep and fatten them in winter. To have a fat sheep or a lamb now and then to kill for the family is a great economy, as you have the butcher's profit as well as the grazer's: a cow or a Scotch ox may also be fattened off, and will find its value in the market. The Lucerne must be kept for the horses and milch cows; the carrots stored for the horses and pigs in winter. It is difficult to calculate the value of this produce when consumed at home, and not sold; but the crops may be valued as they are carried off; and by putting only two thirds of the market value, it will be found that where these crops are well managed they are far more profitable, on an average of years, than crops of corn, even if these could be raised every year without intermission. 350 bushels of potatoes per acre is a very common crop—but say 300, at 1s per bushel, which they are well worth to feed pigs—here is £15. The carrots, if the white Belgian carrot is sown, will produce from 15 to 25 tons, we will take the lowest average, 15 tons, at £1 per ton: they would sell for twice that in a town, for horses—here is £15 more. Tares for horses are readily sold at 1s. the square perch, the buyer cutting and carrying them; this is £3 per acre—say only £5, or £15 for three acres. Lucerne is worth fully as much, or rather more, as it may be cut three or four times; to the consumer they are worth double; set the two acres at £15. The cabbages and Swedes first sown will be worth £5 per acre, and the beet as much. The turnips, after the tares, we will set only at £5 the three acres. We shall thus have an average produce of £70, besides all the manure which is made from its consumption, and which is more than the land requires for the subsequent crops. The rent and taxes were £25, which leaves £15 for labour. We have set down nothing for the occupier's profit, because we suppose that the convenience and saving in the feeding of his horses, the milk and butter, pigs, poultry, eggs, &c., which he has at a much lower price than he could purchase them, will amply repay him. In the averages, we have made ample allowances for risk from failures, for our experience holds us out in warranting the average produce to be fully what we have stated for any number of years. In some years it might be nearly doubled, but from the variety of produce, a general failure or extraordinary success in all

the crops is not to be expected. All the work, as far as is practicable, should be done by the task, except the taking off the crops and casting the manure.

FARM ACCOUNTS AND LABOUR BOOK.

It is of great importance that farmers should keep accurate accounts of the labor bestowed on each and all their different crops, that they may know the actual cost per bushel, or pound of the various products of the farm, and this may be so easily done that there seems to be no reasonable excuse for neglecting it. Yet suppose you were to start from Rome, and travel east, west, north or south, and call on every farmer you come to until you counted one hundred, and were to ask each one of them this question, viz: how many cents per bushel did your last year's crop of corn cost you? How many do you think out of that hundred could answer the question? I know what your answer will be, but I guess not over five manufacturers and mechanics know precisely the cost of their article, and why should not the farmer? It would not only be a source of peculiar satisfaction to each individual farmer, to be able at the close of the year, to sit down and ascertain the actual cost of each article he had raised, and consequently either know or be able to estimate very nearly his profit or loss on each—but by comparing notes with his neighbors, provided the practice were to become general, he could learn who had been the most successful in their operations. Each man would be able to say my wheat cost me so much—my corn so much—my potatoes so much—and so of all his crops, and this would soon show the general average at which the various articles are produced through the country. And of those who were enabled to produce at the lowest rates, the enquiry would be made—how have you done this?—by what management have you been able to produce at those rates?—such enquiries could not but result in improvement.

Now as I have undertaken to show the why and the wherefore, I propose also to show something of the how, hoping that some may be induced to commence a practice, which, if persevered in, I am sure will prove both pleasant and profitable.

Attached hereto is the plan of a Labor Book which I have used and found convenient—very probably it may be improved, and in that respect, every man can exercise his own ingenuity. A few sheets more or less as occasion may require, of common ruled paper stitched into a good paste-board cover, makes the book—unless you choose to patronize the bookseller and get a little more expensive one. One page for each person is required for one month. There will be, however, a few lines left at the bottom, which may be used for making any memorandum or remarks which the business of the month may suggest. Or the name of a man who happens to work for a few days at a time, may be entered there. At the end of the month, the column of days will be added up and the footing put down, there to remain till the man has done work, or the close of the season—the footing of each month will then be carried to the place when he quits work, and all added together—then the amount of wages calculated and entered out in the column of dollars and cents. If you settle with the man, write settled under; if not, it will stand there as a record of the work till you do. The entries should be made every night without fail, that the transactions of one day be not mixed up in the memory with those of another. It will soon become familiar, and you will as soon forget your supper as your Labor Book. The postings can be done rainy days or evenings. This will require some care, that each day, and part of day, be carried to its proper place on the ledger, and some little mark must be made to show which are posted. Sometimes in posting a division like the following, it will be necessary. Suppose you plough up a piece of five acres for corn, potatoes, &c., you have not settled in your mind how you will divide it—in putting down the labor you will say ploughing such a piece. You finally plant three acres with corn, one with potatoes, and sow the rest with clover—then in posting you will carry three fifths of the labor to the account of corn, which will be three days, provided you ploughed just an acre a day. I have never thought it necessary to notice smaller portions of time than

one-fourth of a day—but if that should be thought not sufficiently accurate, when there are frequent changes of work, hours might be introduced. The Ledger may be of almost any form or size, and in posting when there are several successive days at one kind of work, they may be all posted together. There must be an account opened on the ledger, not only for each different crop, but for each kind of work done, viz: One for improvements which may include clearing up land, ditching, making and mending fences, &c. And also one for chores to take up the odds and ends—and this account, if not narrowly watched, will swell to a pretty large one.—But I am aware, there is one serious objection which may be urged to this whole business of keeping a labor book? There might, perhaps, be one very disagreeable evening's work towards the close of the year, and a man might probably feel more like going about it some evening when his wife is away from home I mean the reckoning up his own labor—to sit down and add up the number of days he has actually worked in each month during the season. There is a bare possibility that this might exhibit a result which even he himself might think contained more truth than poetry. But I hope that every one who should have a bad case of this kind, will reflect that the most effective medicines go down hard—and be not discouraged but go ahead—and try and keep in mind hereafter that a labor book has a wonderful memory. When a man employs several hands I see not how a book of this kind can be well dispensed with—merely for keeping the time accurately. The amount of each man's labor can be ascertained in a moment, and beyond all manner of dispute.

Perhaps many men somewhat advanced in life and unaccustomed to keeping accounts of any kind, feel unwilling to undertake a thing of this kind; in such a case I would say—if you have a boy that can write a readable hand, set him at it; it will be a valuable exercise for him—also from the utility of the thing itself.

LABOUR BOOK.

1812.		EDWARD EVERGREEN.	
Jan 1	.... 1	Making compost heap, with team.	
.... 2	.... 1	do.	
.... 3	.... 1	Ploughing corn, 1/2 went to Uden, P. M.	
.... 4	.... 0	Uden J.	
.... 6	.... 1	Hoisting corn.	
.... 7	.... 1	do. 1/2 chores, 1/2 rainy, P. M.	
		41 days.	
		25 " in Mar.	
		25 " in April.	
		6 days—2 months, 4 days—	= \$10 21 54

LEDGER.

1812.		Corn. (2 Acres.)	
A 10	.... 2	days ploughing, self and team.	10c. .... 2 00
M 12	.... 13	" do Edward and team.	5c. .... 1 30
" 15	.... 2	" planting, Edward,	5c. .... 1 25
" 20	.... 2	" do. self.	5c. .... 1 25

From the above examples, I presume the method of keeping the accounts will be readily understood. And the 1st of Augt. is precisely the time for commencing a Labor Book.

P. S. When your crop is harvested and measured, foot up the account—and enter underneath the number of bushels (or pounds) and cost per bushel—there to stand as a record of the cost of raising corn, potatoes, or whatever crop it may be, for that year.—Central N Y Farmer.

We find the following conundrum, in an exchange paper, it contains more truth than wit; Why is a newspaper like a tooth-brush?—Give it up? Because everybody should have one, of his own, and not borrow his neighbor's.

A Good Crop.—Our respected fellow-citizen, William Carmichael, Esq. raised this year upon twenty acres of land, one thousand and twenty six bushels of Mediterranean wheat, being a fraction below fifty-one and a half bushels to the acre, averaging sixty pounds to the bushel. This is a very great yield, larger we believe, than was ever made before on this shore, and we question whether the State can beat it. This shows what good farming will accomplish.

The land on which this wheat was raised, is not better wheat land than two-thirds of this county, but has been greatly improved by the use of manure and marl mud.—Queen Anne's (Md) Telegraph.

### INTERESTING EXPERIMENTS ON THE MAKING OF BUTTER.

From *The Albany Cultivator*.

In the 1st No. of the new series of the Quarterly Journal of Agriculture, we had a valuable paper by Prof. Traill, on the making of butter, the principal results of which we have condensed for this No. of the Cultivator. In making the experiments the milk of several cows was mixed, strained, a certain number of pints taken, and the cream churned in glass vessels. The whole series was conducted with the greatest neatness and accuracy. The objects proposed, were ascertained by the comparative advantages of churning.

1. Sweet cream alone.
2. Sweet milk and cream together.
3. Sour cream, or that slightly acid.
4. Sour milk and cream together.
5. Scalded or clouted cream.

The experiments also embraced the rise of the temperature of the cream in churning, which was found to be from 6 to 8 degrees; the effect of external temperature; and that of adding water to the churn, as practiced by many. The difference in the yield of butter between the first milk drawn and the last, or the strappings, was also ascertained.

Experiment 1. Value of the first and last portions of milk.

No. 1. First pint milked.	Quantity of butter.....	31 grs
No. 2. Pint of the whole milking.....		252
No. 3. Last pint of the milking.....		416

In one instance the difference was still greater, the first pint yielding only 5 grains, and the last 551 of butter. An experiment was made to ascertain the quantity of curd yielded by the first and last portions, but the difference was scarcely perceptible, showing that the quantity of caseine throughout the milk is nearly the same.

Experiment 2 This was made on sweet cream, sweet milk and cream, sour milk, sour milk and cream, and scalded cream. Three quarts of milk of the same quality were used in each case.

No. 1. Sweet cream alone.	Gave of butter.....	1366 grs
No. 2. Sweet milk and its cream together, churned 3 hours, but no butter.		
No. 3. Sour cream alone.....		1756
No. 4. Sour milk & its cream together, 1963		
No. 5. Scalded cream alone.....		1993

The butter of No. 1, was of a good color and well flavored; that of No. 3, in both color and taste was good; No. 4 was paler, but flavored good; No. 5 was of a rich yellow color and of good taste.

Experiment 3, was a repetition of the foregoing. Not quite as much butter was made, as it was a month later in the season; and as before, no butter was made from the sweet cream and milk. From these and other experiments, it was proved that scalded cream, or that taken from scalded milk gave the most butter; the next sour milk and cream; the next from the slightly sour cream, and the smallest quantity from the sweet cream. In none of the experiments could butter be made from the sweet cream and milk together.

Experiments 4 and 5, were made to determine the time in which, with the same exposure, rancidity commenced. It was found that the butter from the scalded cream kept worst; then that of the sour milk and cream; then the sour cream; and the best was that from the sweet cream.

Experiment 6, was made to determine whether the liability to turn rancid was not in proportion to the amount of caseine or curd in each. Experiments showed this to be the case, the kinds containing the most curd being those which exhibited rancidity the earliest. This proved the necessity of perfectly freeing butter from all milk after churning.

Experiment 7, was instituted to ascertain the effect of overchurning, or continuing the process after the full separation of the butter. It was found that the quantity of butter was considerably increased, when the churning was continued half an hour after the butter had formed; but the product was pale, soft, and of an inferior quality, as compared with that churned the necessary time only.

Experiment 8, was instituted to determine whether the addition of either cold or hot water to

the cream in churning, had any influence on the quality or quantity of the butter. The experiment showed that the addition of warm water shortened the period of churning a trifle, gave a little more butter, but injured its quality much. Cold water appeared to produce little effect any way, unless the external temperature was very great, when it rendered the butter more solid and improved the quality.

In each case a number of experiments were made, and the results are therefore more satisfactory than a single experiment could have been. Some of the principal of these results are as follows:—

1. The addition of some cold water is useful, when the cream is thick and the weather hot.
2. The cream alone is more easily churned, than a mixture of cream and milk.
3. That butter from sweet cream has the best flavor, and keeps the longest.
4. That scalding the cream gives most butter, but becomes rancid soonest.
5. That churning the milk and cream together when slightly acid, is, on the whole, the best process.
6. That the keeping of butter depends on its perfect freedom from caseine or buttermilk.

### A BUTTER TABLE.

Messrs. GAYLORD & TUCKER.—I will attempt to say a word on the subject of butter making. There has been quite enough said about milking, setting the milk, churning, &c.; my object will be to attend to some small essentials after the butter is churned. One positive direction is, never touch it with the naked hand, for it assuredly gives it a greasy, oily taste. Some persons may say that I throw myself into the hands of the critic, by saying that butter is greasy, but they are welcome to make what they can out of it. I will give you a specification of a simple machine to separate the butter from all the liquid matter; and if any person can improve on it, or describe a better one, the invention will be gratefully received. The one I have in use, is a maple plank or board, three feet long, two feet at one end, six inches at the other, a true taper on each edge, with strips six inches wide, nailed on the two sides; there are cleats at each end on the under side, in which is inserted at the narrow end, a leg seventeen inches long, and two legs at the wide end, twenty-two inches long. On the surface of the board, near the narrow end and in the centre, is an iron staple; a stick of maple three inches square, three feet ten inches long, a little tapering, gudgeon in the end, with a flat head that will turn into the staple; the other end may be turned or shaved to form a handle. Butter on this board, worked and pressed with this stick, has the benefit of the liquid substance constantly draining from it as the working progresses, and the labour can be performed in a quarter of the time, much better, and much less laborious exertion, than any other plan that has come to my knowledge.

A SARATOGA COUNTY FARMER.

August 8, 1813.

### CURE FOR SALIVATION, &c.

Messrs. GAYLORD & TUCKER.—I send you a recipe to cure the surly or salivation. I have never known it to fail. If you think proper to put it in your paper you can do so. Scrape off the outside of patsunium bark—take as much of the bark as can be grasped between the thumb and forefinger—the same quantity of the bark of sumac root, the same of red shank or red root, the same of common pine root, (small pieces,) the same of parsley roots and tops; put all into two quarts of water, and boil until it is reduced to one quart; then add half pint vinegar, half pint honey, one ounce alum, one do. of saltpetre; after it is poured off into bottles; use often through the day rinsing the mouth, gargling, &c.; use it immediately after meals. There is no danger if it is swallowed—no necessary for swallowing.

THOMAS J. HOLMES.

Concord, Baker Co., Geo., 1813.

To those engaged in the cultivation of the Rhus or Barb plant, if they would place an empty barrel over each plant, it is said to add greatly to its growth and value.

IMPROVEMENT OF SANDY LANDS.—The Hon. Wm. Clark, of Northampton, Mass., as we learn from the *N. E. Farmer*, has several hundred acres of light lands, which he has undertaken to improve, mostly by the turning in of clover. His first growth is usually small, but the second, which comes from the seed of the first, is usually very much better. Some of the lands after a growth of clover has been grown upon them, and ploughed in, are put to corn, but the larger portion are sowed to winter rye. Mr. C. stated that he sowed last summer and autumn from 150 to 175 bushels of rye. Some of his 8 lbs of this grain looked very well, but others will not yield very large crops. Mr. C. does not expect large crops at present.—His object is to make these lands pay for the annual expenditure upon them, and at the same time keep them in a process of regular improvement.—If a few years shall show that he can do this—and we think he will do it—then his method will be highly valuable to hundreds and thousands of farmers who are doomed to work in sand and gravel.

BONNER'S MANURE.—Mr. Greene, before seeing Mr. Bonner's statement in the *Cultivator*, had purchased, and applied that method to the preparation of tea bark, and he has no doubt the compost will be excellent. He thinks the method excellent for converting weeds, straw, cornstalks, &c. into manure, but advises the operator to commence where he can have convenient access to water, as considerable quantities will be required in the preparation.

### RECIPES.

From the *Southern Planter*.

The following are the recipes obtained in Maryland, to which I alluded in my last:—

RECIPE OF DYEING GREEN.—Take ½ lb. of oil vitriol, 2 oz. indigo—put in a bottle and let it stand three or four days; shake it well every day; then boil a strong liquor of hickory barks; dissolve 2 lbs. alum in water, put 6 lbs. yara in the alum water, pour all the ingredients into the dye, put it all on the fire, and boil it well. The same dye will then colour 6 lbs. more of a paler green. After it is dyed, and dried, it must be washed out with good soft soap.

TO DYE RED WITH RED WOOD.—1 lb. red wood (sacked,) 2 oz. alum, powdered; the red wood must stand twenty-four hours in river or spring water; then boil it well, and after straining, mix your alum and aquafortis, and boil it well for several hours. Mix 1 oz. aquafortis, 1 oz. black tin, in a tumbler, and set it in the sun about one hour. The above will colour 2 lbs. of yara.—After being dried, wash out with soft soap.

TO DYE PINK.—2 oz. cochineal, ½ lb. cream tartar, 1 lb. alum, the whole put in a kettle of soft water; then put in 6 lbs. clean yarn, and boil it well; not to be washed after being dried. I saw several very beautiful carpets that were dyed with the above recipes, and for brilliancy of colour, they would compare with the finest Turkey. I was particularly struck with the substantial appearance of one carpet, and on inquiry, was informed that the filling was entirely cow's hair, carded and spun by hand; the cost was but a trifle, and a more durable looking carpet I never saw. I think the whole filling of cow's hair, all white, did not exceed two dollars for a whole carpet. Persons near a city would do well to turn their attention to the manufacturing this article, as it has generally been deemed useful. A small quantity of cow's hair, with the inferior and coarse wool, would make a carpet that would outlast any carpet that could be bought; and in these hard times, every thing that tends to economy should receive attention. Politicians may rant as much as they please as to why and wherefore, and settle the cause of hard times among themselves, but when they come to the remedy, they will find that nothing but industry and economy will afford relief.

Yours, respectfully.

GEORGE W. CRAVEN.

Franklin, May 10, 1813.



## THINGS WORTH KNOWING.

From Miss Leslie's Magazine.

**TO EXTRACT OIL OR OTHER GREASE.**—Take some common magnesia (not the calcined, but that which is made into small squares,) scrape off a portion, and rub it with your finger on the grease-spot. Let it rest half an hour, then brush it lightly off and rub on some fresh magnesia. Repeat this several times till the grease disappears entirely. It is best to rub the magnesia on the wrong side of the article.

Wilmington clay, which may be had in small round balls, is excellent for removing grease-spots, however large. Scrape down a sufficient quantity, and rub on the spot, letting it rest an hour or more; then brush it off, and continue to repeat the process. The genuine Wilmington clay, pure and unmixed, is far superior to any of the grease-balls sold by the druggists.

If oil is spilt on a carpet, that part of the carpet must be loosened up, and the floor beneath it well scrubbed with warm soap and water and fuller's earth; otherwise the grease will continue yet to come through. You may extract some of the oil by washing that part of the carpet with cold water and a cloth.—Then spread over it a coating of scraped Wilmington clay, which should be renewed every two or three hours. If you have no Wilmington clay take common magnesia.

To remove spots of spermaceti, scrape off as much as you can with a knife; then lay a thin soft white paper upon the spots, and press it with a warm iron. By repeating this you may draw out spermaceti. Afterwards rub the cloth, where the spots have been, with some very soft brownish paper.

To remove fresh paint from cloth, wipe it off immediately with another bit of wollen cloth. Paint that has dried, can only be removed by repeated rubbings with fresh spirits of turpentine put on in very small quantities. If the turpentine is old, or of bad quality, it will leave a large mark of its own. After the application of turpentine, keep the article exposed to the open air till the smell is entirely gone. Never clean gloves with turpentine. The odour will remain about the leather so as to render them improper to wear.

A spot of wax may be removed from cloth by holding steadily over it, at the distance of rather more than an inch, the end of a poker heated red hot. When the wax is all out, rub the place with very soft paper.

**CURE FOR WHAT IS CALLED A RUN-ROUND ON THE FINGER.**—That disease of the finger or toe, which is commonly called a run-round, may be easily cured by a remedy so simple that persons who have not tried it are generally incredulous as to its efficacy. The first symptoms of the complaint are heat, pain, swelling, and redness at the top of the nail. The inflammation, if not checked very soon, goes round the whole of the nail, causing intense pain, accompanied by a gathering of yellow matter, which, as soon as it appears, should be punctured or opened by a needle, not waiting till it has extended its progress; otherwise the finger will become excessively sore and intolerably painful, and the nail will eventually come off. All this may be prevented at once, if as soon as the swelling and inflammation begin, the finger is laid on a table, and the nail scratched all over (first lengthways, and then crossways,) with the sharp point of a pair of scissors or of a penknife, so as to scratch up the whole surface of the nail, leaving it rough and white. This little operation will not give the slightest pain, and we have never known it fail in stopping the progress of the disease; all symptoms of which will disappear by next day.—We have proved its efficacy by experience, and believe that every person who has tried it has found it a positive cure, if done before matter begins to appear; and even then it will generally succeed if that part of the gathering which has assumed a yellow color is first opened with a needle and the nail afterwards thoroughly scratched all over with the point of the scissors.

**CORNS ON THE FEET.**—There is, we believe, no permanent cure for corns. But they may be much relieved by putting on the corn a little lump of Indian meal mixed with cold water to the consistency of soft mush; securing it by a thin soft slip of rag wound round the toe. It need not be

tied on by a thread, as the neighbouring toe will keep it in place. The stocking and shoe may be worn as usual. In about an hour take off the Indian meal, cut carefully with sharp scissors the top of the corn, which will be found much softened, and then renew the application or poultice with fresh meal and water confined by a clean rag. Repeat it almost every hour during the day (or for several days) till the corn has thus been entirely softened all through, drawn to the surface, and then trimmed off. We know this to be a good remedy. If you persevere in it for two or three days. The application of the wet Indian meal is cooling and pleasant.

Corns between the toes are often very troublesome and exceedingly painful; and are frequently so situated as to be inaccessible to the usual remedies. Wetting them with hartshorn or with lemon juice will, in most cases, cure them for a time.

A small slip of wadding put round a toe that has a corn, and renewed every day, will give it much ease by interposing its softness between the corn and the pressure of the stocking and shoe.

**TO REMOVE A WART.**—Touch it with a clean pen dipped in a little aqua-fortis. By repeating this daily, the wart will crumble, and come off without pain or trouble. It is an excellent and safe remedy for hard, horny, callous, whitish warts; but if the wart is red, fleshy, and sore to the touch, do not apply the aqua-fortis.

**FRENCH METHOD OF WASHING COLORED SILK CRAVATS, SHAWLS, &c.**—Make a mixture in a large flat dish of the following articles—A large table-spoonful of soft soap, or of hard brown soap shaved fine; (white soap will not do,) a small tea-spoonful of strained honey, and a pint of spirits of wine. Have ready a large brush (a clothes-brush for instance) made perfectly clean. Lay the silk on a board, or on an ironing table, stretching it evenly, and securing it in its place with weights set on its edges. Then dip the brush into the mixture, and with it goall over the silk, lengthways of the texture; beginning at that part of the silk which is least seen when worn; and trying a little at a time till you have ascertained the effect. If you find that the liquid changes the color of the silk, weaken it by adding more spirits of wine.

Having gone carefully over the whole of the article, dip it up and down, in a bucket of clear water; but do not squeeze or wring it. Repeat this through another clear water, and then through a third. Afterwards spread it on a line to dry, but without any squeezing or wringing. Let it dry slowly. While still damp, take it down; pull it and stretch it even, then roll or fold it up, and let it rest a few minutes. Have irons ready, and iron the silk, taking care that the iron is not so hot as to change the color.

The above quantity of the washing mixture is sufficient for about half a dozen silk handkerchiefs, one shawl, or two scarfs if they are not very long. If there is fringe on the scarfs it is best to take it off, and replace it with new; or else to gather the ends of the scarfs, and finish them with a tassel or ball. Brocaded silks cannot be washed this way.

Gentlemen's silk or chaly cravats may be made to look very well washed in this manner. Ribbons also, if they are thick and rich. Indeed whatever is washed by this process must be of very good quality. A foulard or a plaid silk dress may be washed in this way, provided it is first taken entirely apart; & & aprons also. We have seen articles washed by this process, and can assure our readers that it is a good one.

This is also a good method of washing blond—using a soft sponge, instead of a brush.—When dry, lay the blond in long folds, within a large sheet of white paper; and press it for a few days in a large book, but do not iron it.

In putting away ribbons or silks, wrap or fold them in coarse brown paper, which, as it contains a portion of tar or turpentine, will preserve the color of the article, and prevent white silk from turning yellow. The chloride of lime used in manufacturing white paper renders it improper to keep silks in, as it frequently causes them to spot, or to change color.

**TO CLEAN LOOKING-GLASSES.**—Take a new paper, or a part of one, according to the size of the glass. Fold it small, and dip it into a basin of clean cold water. When thoroughly wet, squeeze it out in your hand as you would a sponge, and then

rub it hard all over the face of the glass; taking care that it is not so wet as to rundown in streams. In fact, the paper must be only completely moistened or damped all through. After the glass has been well rubbed with the wet paper, let it rest a few minutes; and then go over it with a fresh dry newspaper (folded small in your hand) till it looks clear and bright—which it will almost immediately; and with no farther trouble.

This method (simple as it is) is the best and most expeditious for cleaning mirrors, and it will be found so on trial—giving a clearness and polish that can be produced by no other process. It is equally convenient, speedy, and effective. The inside of window panes may be cleaned in this manner, to look beautifully clear; the windows being first washed on the outside. Also, the glasses of spectacles, &c. The glass globe of an astral lamp may be cleaned with newspaper in the above manner.

**PRESERVED CITRON MELONS.**—Take some fine citron melons; pare, core, and cut them into long slices. Then weigh them; and to every six pounds of melon allow six pounds of the best loaf sugar, and the juice and yellow rind (pared off very thin) of four large fresh lemons; also half a pound of rice-ginger.

Put the slices of lemon into preserving kettle; cover them with strong alum-water, and boil them half an hour, or longer, if they do not look quite clear. Then drain them, lay them in a broad vessel of cold water, cover them, and let them stand all night. In the morning tie the rice-ginger in a thin muslin cloth, and boil it in three pints of clear pump or spring water till the water is highly flavoured. Then take out the bag of ginger. Having broken up the sugar, put it into a clean preserving kettle, and pour the ginger water over it. When the sugar has all melted, set it over the fire, put it in the yellow peel of the lemons, and boil and skim it till no more scum rises. Then remove the lemon peel, put in the sliced citrons, and the juice of the lemons, and boil them in the syrup till the slices are all quite transparent, but not till they break. When done, put the citrons and syrup into a large tureen, set it in a dry, cool, dark place, and leave it uncovered for two or three days, till all the watery particles have exhaled. Afterwards put the slices carefully into wide-mouthed glass jars, and gently pour in the syrup. Lay inside of each jar upon the surface of the syrup a double white tissue paper, cut exactly to fit, and then close the lids of the jars. This will be found a delicious sweet meat, equal to any brought from the West Indies, and is well worth doing. We recommend it highly.

**TO MAKE GOOD VINEGAR.**—Take five gallons of soft clear water, two quarts of whiskey, two quarts of West Indian molasses, and half a pint of the best fresh yeast. Lay a sheet of white foolscap paper at the bottom of a very clean keg, and put in the mixture. Place it in the sun the first warm weather in June; and in six weeks it will be fit for use. If you make it in winter, keep it in a place where there is a coal fire or a wood-stove. Put in the bung loosely, and do not stop it tight till the fermentation of the vinegar is over.

Much of the vinegar that is now offered for sale, is excessively and disagreeably sharp, overpowering the taste of everything with which it is combined. This vinegar is deleterious in its effects, and should never be used. Oysters and pickled vegetables have been entirely destroyed or eaten up by it in a few hours, so that nothing of them was left but a few particles floating in the vinegar. It has lately become so difficult to procure, from the shops, such vinegar as is wholesome and palatable, that families would do well to make their own. There are many receipts for home-made vinegar; all different, but most of them good; and at least free from the pernicious articles which are now too frequently employed in making it for sale.

**CHEAT AND DURABLE PAINT.**—To one gallon of good milk, add two dozen eggs, and one pound and a half of loaf sugar;—then add sifted slacked lime to bring it to a proper consistency. To be put on the same day. It will be well to run the whole through a paint mill, or otherwise to see that the coarser particles of the lime are well dissolved.



## FORMS OF CATTLE.

From *The Farmer's Cabinet*.

Messrs. Editors, -Your correspondent, W P H., on page 260, of the present vol. of *The Cabinet*, asks if some of your readers cannot furnish the most approved anatomical forms of cattle, particularly the milk cow?

Some years ago, I wrote for *The Reporter* a piece on this subject, which was republished in *The Franklin Farmer*, of Feb. 1838. As this piece appears to answer your correspondent's request, I shall transcribe a part of it for that purpose, and make such additional remarks as may be suggested. In making the following observations, I acknowledge my obligations to many writers; but none to the gentleman in Indiana, who, a few years ago, furnished the piece, as published in *The Franklin Farmer*, to an agricultural paper of that State, as his own production.

The two principal objects in raising cattle appear to be *beef* and *milk*. And as certain forms are found to possess particular qualities, I shall proceed to give those forms, and the desirable qualities generally connected with them.

The head should be small—the muzzle fine—the countenance calm—horns fine—neck light, particularly where it joins the head—breast wide, and projecting well before the legs—shoulders moderately broad at top, and the points well in, so as to leave no hollows behind them when the animal is moderately fat—the girth behind the shoulders should be deep, so that if the carcass should be cut across here, the section would be an *ellipse*, blunt at both ends—back straight, wide and flat—ribs broad, and the space between them and the hips small—flank full and heavy—belly well kept in—hips globular, wide across and on a level with the back—twist wide, and the seam in the middle of it well filled—thigh straight, tapering well down to the hock—the legs straight, short jointed, clean, fine boned, and standing wide apart—tail broad towards the top, tapering down small towards the bottom—body long, and joined smoothly to the quarters—before and behind—skin soft and elastic—veins large.

I shall now proceed to show the advantages of the above form. The reason why the head should be small and muzzle fine, a small head facilitates birth, and as the head is composed mostly of bone, it shows firmness of bone, the advantages of which is fully appreciated by the grazer, who has learned that no animal fattens kindly that lacks them. Calmness of countenance also denotes a disposition to be contented, and is generally possessed by a gentle milk cow, and also denotes an animal that will fatten easily. The light neck will be very advantageous to the butcher, who will get much less coarse meat in such; short neck generally denotes a thrifty, hardy animal. A long, or ewe-neck, that is, one falling off from the top of shoulders—denotes a tender constitution.

The wide breast and deep body, give greater room for the lungs, the importance of which will be seen presently. A straight back is indicative of strength; a weak animal is generally hump-backed; poor keeping will produce these deficiencies in a calf that was at first well formed. The straight back also denotes aptitude to fatten. Much depends upon the room the lungs have, no animal can be a good one whose lungs occupy a small space: and as the lungs occupy all the space inside the ribs, so it is important that this space should be large. For this reason, the ribs should spread wide, be deep, and extend well back to the hips. The full, heavy flank of the cow, is a most certain indication of a good milker, this, con-

nected with *large veins*, particularly those on the side of the belly, generally called the *milk veins*, is a certain indication of a good milk cow. The milk is formed from that portion of blood that circulates on the external part of the cow; and as large veins denote a large circulation, so it is indicative of a good milker. The bull with a deep flank generally produces good milk stock. The belly being nearly straight, shows that the plates of which it is composed are thick and strong;—when the plates are thin, the belly sinks from the weight of its contents. Thick plates are of great advantage to the butcher, when the animal is killed, as it adds much to the weight of meat. Globular hips hold much meat, and it is much easier put upon them, than on those that are sharp. Wide hips give a broader loin and more capacity to the pelvis, which is of much importance in the cow, giving the calf more room. The hind-quarter that is long from the hip to the rump, and straight with the back, will weigh very heavy, and for the same reason the twist (that is the space between the thighs) should be wide and well filled up, which gives great weight to the upper part of the thigh. Straight legs are now the fashion, and are said to be stronger than crooked ones. Clean legs, small bones, tapering tails, show fine bone—and such animals are easily kept, and when not in milk, eaten easily. A short legged animal also, is more easily kept and fattened, than long legged ones. When the basket and twist are large, the legs will be wide apart.

I somewhat doubt the propriety of insisting upon a long body; but a good animal with a long body, will weigh much heavier than one with a short body; but it is much easier to breed good animals with short bodies. There is a continual tendency in the produce of the long bodied animal to be narrow in the breast, which is not the case with the shorter animal. And as a general rule, the shorter animal fattens much more easily. However, if the width of the carcass can be kept up, a long body is to be preferred. Round bodies were formerly the fashion, but the deep body is now thought to be decidedly best. The limbs do not join to the body of the round animal, as smoothly as to the oval, there generally being a hollow behind the shoulder; neither is the carcass as heavy. Round animals too generally carry the fat upon the surface, and do not mix it as well with the flesh. A soft and elastic skin is one of the most certain tests of an animal that will fatten kindly. An animal may have the finest form and the most perfect symmetry, yet if he lacks the proper "feeling," he will not fatten kindly. On the other hand, if he has the proper "feeling," he may lack much in form, and still will fatten kindly. By "feeling," is meant certain sensations produced by "touching or handling" an animal; the causes learned of which, is the softness and elasticity of the skin. The elasticity is occasioned by the quantity of cellular substance (that is, little elastic bags to hold fat) that is placed between the skin and the flesh. As this cellular substance can be discovered by an experienced "handler," even down among the muscles (lean flesh), so he can tell whether an animal will fatten in such parts, and whether the fat will be well mixed with the lean. But this knowledge is not to be obtained without much practice.

I have above described the most approved form for cattle, and have given the reasons why this shape is preferred. There is another reason not yet mentioned. When the cow has ceased to give milk, and has been fattened, it will be found that she will not only weigh heavy, but will carry her weight upon the most valuable parts. For it is known, that the butcher sells some pieces of beef for twice as much as others. And she can be fattened

upon half the food necessary to fatten an inferior animal.

I have said nothing about the shape of the *udder* and *teats*, as these can be best judged of when the cow is in milk; and then the best proof is *milking her*. Still it may be serviceable to say, the udder should rather be round than long; should lay up close to the body; should spread forward—teats about equally distant, of moderate size, say about two inches in diameter, next the udder, and taper down to the point, which should be blunt rather than sharp: they should be from four to six inches long. The udder, when empty, should be greatly reduced in size, and the skin should contract so as not to leave it flabby—it should not feel at this time hard and knotty, as this would indicate that it might become thickened and scirrhus, so as to make the cow liable to inflammations, and probably loss of some of the quarters.

SAMUEL D. MARTIN.

Colbyville, Kentucky, April 3, 1843.

## CORN STALK SUGAR AND MOLASSES.

To the Editors of the *Tennessee State Agriculturist*.

In compliance with a request set forth in the last number of the *Agriculturist*, I now furnish you with such information as I possess on the subject of making Sugar and Molasses from the common corn-stalk, which, if you deem of sufficient importance, you may publish in your valuable journal.

Respectfully, your obed't Servant,  
W. H. DEADERICK.

Having during these hard times felt somewhat restless under a heavy tax imposed by the necessity of providing for the daily consumption of a large family, and stimulated by the Essay of Mr. Webb, on the subject of manufacturing Sugar from Corn stalks, I determined last summer to give the project as fair a trial as my entire inexperience in the business would permit. Accordingly, the construction of a small mill, with two rollers about fifteen inches in diameter, was procured, and the first effort made with stalks from which the corn had been taken for the purpose of cooking. The juice, after standing half an hour to settle, was deposited in a bell metal kettle to boil, and when hot, a table spoonful of lime water was added for each gallon of juice.—Before it became too thick for the purpose, it was again strained and carefully skimmed during the whole process of the boiling. When broiled down to the point of crystallization which is indicated when a portion taken whilst warm between the thumb and forefinger, can be drawn into a thread from a half to an inch in length, it was removed from the fire, and a small quantity set aside for granulation. In about three days, this process commenced, and after perhaps one sixth part had crystallized, it ceased and would proceed no further. The next trial was from stalks, the corn on which had just become too hard for table use. In like manner portions were set aside, and the next day granulation commenced, and twice as much underwent this process as in the first instance. The third essay was with stalks, the corn on which had nearly become hard enough for grinding. The syrup or molasses obtained from these, was greatly inferior to the two first, and although a part of it was kept several months, never evinced any tendency to crystallize. It would thus appear, that the age of the stalk most congenial to the granulating process, is when the corn is just becoming too hard for the purpose of cooking. However, it will require further experience, positively to determine this question. The syrup thus procured, was somewhat darker than honey, but perfectly transparent and free from impurity, and

From the Southern (Geo.) Cultivator.

### SMUT IN WHEAT.

Stanfordville, Putnam Co., July 28, 1843.

Messrs. EDITORS:—Your paper of the 19th inst has just come to hand, in which I find a communication from your correspondent "H." of Athens, giving some account of the benefits resulting from soaking seed wheat in a solution of bluestone or strong brine, and rolling in slacked lime, to which I wish to add my experience. And I will here state, that the benefits I have enjoyed by soaking my seed wheat in a solution of bluestone have been derived from reading agricultural papers—my advantages from this one piece of information has been worth more to me than all the money I have ever paid for agricultural papers.

Year before last I soaked 15 bushels of my seed wheat in a solution of bluestone, and sowed it in a field as far as it would go; there being 6 or 8 acres of the field left, which were sown with the same kind of wheat, the land in about the same order, and the wheat equally as well cleaned, but had not been soaked. The result was, the wheat that was soaked was of good quality and clear from blast or smut; that part of the field sowed with the unsoaked wheat, had a considerable quantity of smut in it. I soaked my seed wheat again last year in the same kind of solution, and have a nice crop of wheat with not a grain of smut in it that I have seen. I did not roll my wheat after soaking in lime or any thing else, and several of my neighbors tried the experiment of soaking their seed wheat last year with entire success.

The quantity of bluestone used in this settlement is one pound to every five bushels of wheat, and the plan has been to put the wheat in soak in the evening for the next day's sowing; reserving the water to put the next wheat in, and then add enough more water with its proportion of bluestone to cover the wheat.—The best plan is to dissolve the bluestone in a small quantity of hot water, as it is hard to dissolve in cold water. If the weather should become wet and any of the soaked wheat not sowed, it may be spread in an out house without any injury till the ground gets in the right order for sowing again. I soaked some of my seed wheat last year 6 or 8 days before it was sowed. I have no doubt but rolling the wheat in lime after it is soaked is an advantage, especially when the seed wheat is not as thoroughly ripe as it should be, or the ground the least out of order, and thus when it is too wet to be perfectly triable.

I would advise all wheat growers who are troubled with smut, to try this experiment or a similar one. The cost of a trial is but trifling, as bluestone costs only 20 to 25 cents per pound.

In concluding this communication, I do most sincerely advise all wheat growers to have their seed wheat thoroughly ripe, and then effectually cleaned with a good sieve, (after being fanned,) letting all the small grains pass through the sieve, and take all the light grains that rise on the top off with the hand. Should there be any cockle in the wheat, by using a sieve of the right description, it will in a few years be entirely eradicated.

I am, sirs, yours respectfully,  
JOHN FARRRA.

A man of much presence of mind, living near Aberdeen, heard a thief breaking into his house in the night. He reached to a bundle of soda water on the mantel-piece, and as soon as the fellow's head was visible, took deliberate aim and cut the string. The cork hit him in the face; and the thief thinking it blood, fell on his knees and roared for mercy. He was suffered to depart on promise of amendment.

The following is an extract of a Report of the Sunbury Agricultural Society, for the year 1842:

"Great prejudice has existed against planting Indian Corn of late years, owing, it has been alleged, to the great difference in the late and former seasons; but the great cause of the failures of the Corn crop has been owing more to the neglected manner of culture than to the seasons. Formerly when the Intervals were new and rich the Corn grew luxuriantly, but the culture of late years has deteriorated the soil.

"An old respectable farmer in Sheffield affirms that he has never failed in raising Corn but once—another aged farmer in that Parish lately affirmed that he never failed; and among the competitors of this Society, four have exceeded twenty bushels from a quarter of an acre.

"The first premium for Corn was for 23½ bushels, and the second for 22 bushels from the quarter acre. The greatest quantity of potatoes from half an acre was 251 bushels, and of turnips, 350 bushels.

"The most successful mode of cultivating corn, potatoes, and turnips, has been that of plowing the ley or sod ground in the autumn, and repeatedly cross-plowing in the spring until the soil is pulverized and then spreading on the manure.

"The quantity of butter from one Cow in four weeks was 29½ lbs., which fully proves the great benefit of careful feeding and of selecting a good breed of cattle for milk.

"The few enterprising farmers who are endeavoring to improve on the former practice of Agriculture, it is to be hoped will have a salutary influence on those around them, and thereby promote improvement in that science which has been so little studied by many farmers.

"But much remains still to be effected in removing prejudice and producing reform. There are still allotments of land, containing five hundred acres each, which have been sowed or occupied from 50 to 70 years, and which have not now 30 acres cultivated, although in the centre of the Province and bounded on the beautiful River Saint John, within ten miles of Fredericton. Thousands of acres of valuable alluvial in this county are still unreclaimed—many acres of old worn out meadow land, which has been annually mowed in the summer and pastured in the fall for fifty years, (without even having been ploughed in that time,) and which though naturally a superior soil, now produces a very light crop. And we may still see the barnyard drained across the highway into the river, to the annoyance of the traveller and loss of the owner.

"The great improvement in the construction of agricultural implements and the improved skill in the use of them cannot fail to be beneficial. The immense beds of natural manure with which this county abounds, cannot be excelled in any county in the Province, and when all the land in the county fit for cultivation is cleared of its wood, there will be little of forest left for wood.

"That agriculture is the most natural, useful, healthy, and religious occupation, few will deny; and that it is likely to prove the surest source of wealth, independence and comfort need not be doubted. And it must be admitted that it is of great importance that it should be fostered with care, aided with zeal and fixed upon the best and surest system."

"When we learn from history of the hard winters which used to reign in England, when the river Thames, like the St. John, used to serve for coaches to travel on; and that the English emigrants upon their first landing upon the coast of the United States, (where snow and hard frost are seldom experienced,) had to encounter all the severity of a New Brunswick winter, we have good reason to believe that there will also be an improvement in the climate of this Province, and we are the more encouraged to expect this from the mitigated severity of the winters within the last forty years.

"As useful members of society we should therefore encourage agriculture, and as loyal subjects we ought not to neglect it, remembering that the Queen herself is supported by the labors of the field."

CALVIN L. HATHEWAY,  
Secretary and Treasurer.

pronounced superior without exception, by numerous persons who partook of it, to either imported molasses or honey. It presented no other taste than that of a rich and luscious sweet, wholly free from any strange or unpleasant flavor, such as appeturants to the articles just named. The sugar obtained, did not either in appearance or taste, differ more from Orleans sugar, than different lots of this article do from each other. The disposition of the syrup to granulate fully, may perhaps be deemed discouraging. But doubtless future experience will develop some method to obviate this difficulty. Nevertheless be that matter as it may, it will now be shown that this objection is not sufficiently formidable to prevent the substitution even of the corn stalk syrup for Louisiana Sugar and Molasses. Sundry visitors at various times to the family of the writer, partook of their Coffee clandestinely sweetened with this syrup, and on being apprised of the deception, acknowledged that they did not perceive or suspect that it was sweetened with any other article, than the one in common use for this purpose.

It is fair, however, to say that when the attention was directed to the case, the Coffee could be perceived to have a slightly acidulous taste just as if the cream used in it was beginning to turn sour. This trivial peculiarity, however, of the syrup, was not considered objectionable by any person. The preferable and most convenient mode, however, is to add the syrup, (about a table spoonful for each individual who may be expected to partake) to the coffee when first made, and boil it all together. The taste of the coffee managed in this way, cannot be distinguished from that sweetened with the best Orleans sugar. Suffice it to say, that the syrup for more than a month was used in the writer's family, as a substitute for sugar, with entire satisfaction. It was tried in making preserves, which I believe were just as good as if made with brown Sugar. Sweet cakes were made at the same time with both articles, and no one could tell which were of the sugar and which of the molasses. But be it remembered that, in order to realize these, the article must be carefully made in the way indicated above.

One hundred large cornstalks will afford ten or eleven gallons of juice, which, when boiled down to the point of crystallization, will yield one gallon of syrup. One acre of ground drilled with corn, one foot apart in rows three feet asunder, will give about 14,000 stalks. Of course those (at 100 stalks per gallon) would yield 140 gallons of syrup suitable for any of the purposes for which brown sugar is used. If intended for molasses, it need not be boiled down so thick, and will probably make 160 or 70 gallons.

The whole business of gathering, stripping, and grinding the stalks, can be performed by boys from seven and eight to twelve or thirteen years of age. The experiments recited above assuredly justify the following conclusions, to wit: Any individual possessing only a small portion of land, can, with a little labour and no expense, after the mill is once erected, supply his family with sugar and molasses. No real necessity exists for Tennessee, or any other corn-growing country, to import a single hoghead of sugar or barrel of molasses, inasmuch as the first is equal and the second superior to the corresponding articles of Louisiana production, can be obtained from the corn stalk with half the labour required to produce them from the sugar cane. Against the next season, I design to have constructed a more efficient mill with three rollers, say 20 inches in diameter, and shall thenceforward consider myself released from the expenditure complained of in the commencement of this article.

D.

TORONTO MARKETS.

September 14, 1843.

	s.	d.	t.	d.
Flour .... per bbl. 196 lb...	20	0	a	22 6
Wheat .... per bush. 60 lb...	3	6	a	4 4
Barley .... per bush. 43 lb...	1	9	a	2 4
Rye ..... per bush. 56 lb...	2	3	a	3 0
Oats ..... per bush. 34 lb...	1	0	a	1 4
Oatmeal .. per bbl. 196 lb...	15	0	a	18 9
Peas ..... per bush. 60 lb...	1	6	a	2 0
Timothy .. per bush. 60 lb...	3	0	a	3 9
Potatoes .. per bushel .....	1	3	a	1 6
Hay ..... per ton .....	40	0	a	42 6
Straw .... per ton .....	20	0	a	25 0
Hides .... per 100 lb.....	0	0	a	0 0
Salt ..... per barrel .....	12	6	a	15 0
Beef ..... per 100 lbs.....	15	0	a	18 9
Beef ..... per lb. ....	0	2	a	0 5
Mutton... per lb. ....	0	2	a	0 4
Veal ..... per lb. ....	0	2	a	0 4
Pork ..... per 100 lbs.....	16	3	a	20 0
Pork ..... per lb. ....	0	2	a	0 4
Turkeys .. each.....	3	6	a	4 0
Geese ... each.....	2	6	a	0 0
Ducks ... per couple .....	1	8	a	2 0
Fowls ... per couple .....	1	8	a	2 0
Chickens.. per couple .....	0	10	a	1 3
Butter ... per lb. ....	0	6	a	0 9 1/2
Eggs ..... per dozen .....	0	4	a	0 5

TRAVELLING AGENTS WANTED.

THE EDITOR OF THE BRITISH AMERICAN CULTIVATOR is desirous of procuring the services of several competent persons to canvass the Province in the capacity of TRAVELLING AGENTS for that Journal. None need make application but those who can give unquestionable references.

A very liberal rate of discount will be given.  
August, 1843.

CARDING MACHINES.

THE SUBSCRIBER begs leave to acquaint his friends and the public in general, that in addition to his Foundry and French Burr Mill Stone Factory, he has engaged Archolaus Tupper, who is an experienced Mechanist, to make all kinds of CARDING MACHINES, of the latest and most approved construction; he has been engaged for twenty years in the United States, and also in Canada, and has a thorough knowledge of all kinds of Machinery, namely:—Double and Single Carding Machines, Pickers, Condenser, Jacks, Billeys and Jinney. Also, Broad and Narrow Looms, Shearing Machines, and Gigs, Napping and Teazling; Stoves for heating Press Plates, Press Screws. Also, Grinding Shearing Machine Blades; Fulling Mill Cranks, &c., and all kinds of Grist and Saw Mill Castings made to order, Wrought and Cast Iron Cooking and Plate Stoves, Fancy Stoves of all kinds: Also, Ploughs of different patterns; Mill Screws of all kinds; and Damsall Irons, Bolting Cloths, of the best Dutch Anker Brand, warranted of the best quality; Mill Stones of all sizes, always on hand and to order. Also, all the other herein-mentioned articles always on hand and for sale by the Subscriber, at his Foundry, on Yonge Street, as cheap as they can be obtained at any other place.

CHRISTOPHER ELLIOT.

Toronto, August 7, 1843

FULL BRED BERKSHIRE HOGS FOR SALE.

THE Subscriber begs to acquaint the public, that he will offer for Sale, by Public Auction, the whole of his valuable Stock of BERKSHIRE HOGS, on the 11th of October next, at the Agricultural Show grounds, new Gaol. The Sale to commence at the close of the Exhibition.

JOHN SEVERN.

Toronto, September 15, 1843.

CATTLE SHOW OF THE HOME DISTRICT AGRICULTURAL SOCIETY.

UNDER THE PATRONAGE OF HIS EXCELLENCY THE GOVERNOR - GENERAL.

THE AUTUMN FAIR AND FAT CATTLE SHOW will be held upon WEDNESDAY, the Eleventh day of OCTOBER, 1843, at the CITY OF TORONTO, on the enclosed space in front of the NEW JAIL AND COURT HOUSE, where the Society will award the undermentioned Premiums for the following Stock, &c.:-

	BEST.	2d.	3d.
<b>SHEEP:</b>			
Rams, one shear .....	30s.	20s.	10s.
Do. two do. ....	30	20	10
Aged Rams .....	30	20	10
Ram Lambs .....	15	10	5
Ewes (pen of two).....	30	20	10
Ewo Lambs (pen of two).....	15	10	5
<b>SWINE:</b>			
Boars.....	30	20	15
Sows.....	30	20	15
<b>YOUNG HORSES:</b>			
Horse under 3 years.....	30	20	10
Mare under 3 years.....	30	20	10
Horse or Mare under 2 years....	30	20	10
Spring Colt or Filly.....	20	15	10
<b>YOUNG CATTLE:</b>			
Bulls under 2 years.....	20	15	10
Heifers do. ....	20	15	10
Spring Bull Calves .....	20	15	10
Spring Heifer Calves.....	20	15	10
<b>FAT CATTLE AND SHEEP:</b>			
Best pair of Fat Cattle fed in the Province .....	30	20	15
Best pen of 3 Fat Sheep fed in the Province .....	30	20	15
<b>HOPS, grown and prepared within the Home District, during the present year:</b>			
One Pocket .....	50	40	20

An additional Premium of Five Pounds will be given to any Member of the Society who shall bring for sale the largest quantity of Hops, grown and prepared by himself, within the Province, during the present year.

WHEAT, not less than 2 bushels, the growth of the present year:

Autumn White .....	15	10	5
Autumn Red .....	15	10	5
Spring Wheat .....	15	10	5

RULES AND REGULATIONS FOR THE DAY.

- As an encouragement to those enterprising Farmers who have already imported Stock into this Province, and as an inducement to others to follow their example,—if any animal, entered for competition, be deemed by the Judges worthy of the first prize, and if the owner of the same prove, to the satisfaction of the Judges, that such specimen of Stock has been imported from Great Britain since the last October Fair, he shall, upon producing certificates of the age and breed of the animal, be entitled to the thanks of the Society, and receive double the amount of the Premium which would otherwise be awarded.
- The Secretary, George D. Wells, Esquire, will be in attendance at the Court House, at 10 o'clock, on the morning of the exhibition for the purpose of entering the application for Premiums, and issuing tickets to competitors. At 12 o'clock the Secretary's lists will be closed after which hour no entry can be made.
- No person shall be allowed to compete for any of the above Premiums unless he shall have been a member of this Society for at least four months previous to the day of Fair, or pay the sum of 15s. on entering his Stock.
- The Society have entered into such arrangements in the selection and appointment of Judges as to prevent any idea of partiality.

5. No person or persons, other than the Officers of the Society, must interfere with the Judges when in the discharge of their duties by conversation or otherwise.

6. In order to prevent any idea of partiality in awarding the prizes, each competitor for a premium shall be furnished by the Secretary with a numerical ticket, to be fastened to the animal entered for a prize.

7 The Stock in the Show Yard will not, until the Premiums are awarded be known to the Judges by the names of the Owners or Graziers, but solely by the ticket and numbers corresponding to the Secretary's list.

8. The Stock to be on the ground by 10 o'clock in the morning, and remain till 3 o'clock, P.M. At 12 o'clock, the Judges will commence their duties of inspection and decision. The names of the successful candidates—the Premiums they shall have received, and what adjudged, will be publicly announced by the President, at Mr. SMITH'S, Farmer's Arms, immediately after the dinner, and afterwards published in several newspapers of the District.

9. The Fat Cattle and Sheep must be offered for sale to the Butchers before any premium for the same shall be awarded to their owners.

10. Members of the Society who may feel desirous of buying any of the Sheep receiving a prize, are entitled until after 5 o'clock of the day of the Fair, to purchase them from their owners at the following rates in cash, viz. Imported Sheep, £25 each; Sheep bred in the Province, £12 10s. each.

N. B.—Immediately after the Fair, at 3 o'clock, P. M., will be offered for sale, at Public Auction, at a credit of twelve months, an improved endorsed notes, Thirty Full-Blooded Leicester Sheep, an Ayrshire Bull, imported; and a large number of very superior Horses and Cattle will also be offered for sale, at Public Auction, if not previously disposed of.

GEORGE DUPONT WELLS, Secretary, H. D. A. S.

DAVENPORT, NEAR TORONTO, September 13, 1843.

N. B.—Tickets for the Dinner (to be prepared by Mr. Thomas Smith, Farmer's Arms), can be procured from Mr. Atkinson, Mr. Thomas Smith, and at several of the principal Hotels in the City of Toronto.

CONTENTS.

	PAGE.
To Agricultural Societies—To Agents.....	113
Agriculture in Nova Scotia.....	114-15
Home District Cattle Show.....	116
Houses of Unburnt Brick Lime.....	116
Siberian Spring Wheat—Dantzic Wheat— Rape—August, 1843.....	117
Dr. Playfair's Lectures on Chemistry applied to Agriculture.....	118-19
The Canadian Tariff, by William Elliott, Esquire—Cause of, and Cure for Hard Times—Ammonia .....	120
Ice Houses—Ashes for Peach Trees—The Plum Curculio Cured by Salt—Mildew on Gooseberries .....	121
Principles of Vegetation and Tillage— Amateur Farming .....	122
Farm Accounts and Labour Book .....	123
Interesting Experiments on the making of Butter—A Butter Table—Cure for Salivation—Recipes for Dyeing Colours .....	124
Many Things Worth Knowing .....	125
Forms of Cattle—Cornstalk Sugar and Molasses .....	126
Smut in Wheat—Sunbury Agricultural So- ciety .....	127
Advertisement of the Home District Cattle Show .....	128

Mr. ENOS FOLSON is now on a tour through the Gore, Niagara, and Brock Districts; and is authorized to collect Subscriptions for The British American Cultivator.

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