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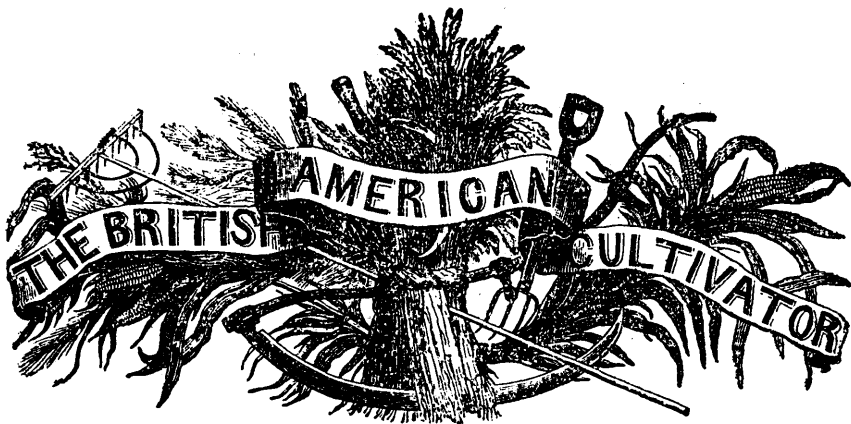
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"Agriculture not only gives Riches to a Nation, but the only Riches she can call her own."

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New Series.

TORONTO, MAY, 1846.

Vol. II. No. 3.

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#### AGRICULTURAL EDUCATION.

If ever there was a time that the subject of Agricultural Education deserved a full investigation at the hands of the farmers of this Province, that period is the present. The protection which the agriculturists of British America have for many years enjoyed in the British markets, is about being taken from them, and that too at a time when the benefits arising from the operations of the new Canada Corn Bill was in a great measure more in the prospective than real; it is therefore to be apprehended that but few of the Canadian farmers are prepared to make at once a willing surrender of the supposed boon which has already had the charm of establishing unlimited confidence in the agricultural and commercial interests of the country. Every sensible man who has given himself the trouble to reflect seriously upon the subject of the exclusive system of protection alluded to, must at once see that it was incompatible with the nature of things that it could long exist. It is quite obvious that free trade principles will ultimately prevail; and there are no good grounds upon which to found the belief that its effects will be more seriously felt in the Canadas than in the Mother Country. One thing appears to us certain, that when free trade principles are established and carried into operation in this country, it will be folly to expect that the old mode of managing and regulating the great interests of the country

will answer the desired end. Changes of vast importance will have to be effected in almost every department, and to fully prepare the minds of the people of Canada for those changes which will elevate them to the zenith of civilization and prosperity, an entire new order of practical and scientific education will have to be introduced in the rural districts.

Before entering into the merits of this highly interesting question, we would remark, that in our opinion, by proper action on the part of the inhabitants of this colony, the adoption of free trade principles will add greatly to the real wealth of the country. So long as we were favoured to a greater degree than the people of other countries, in disposing of our surplus produce in the British markets, so long were we practically prevented from taking any decided action, or adopting enlarged and liberal views in encouraging manufacturing enterprises, and in developing the abundant resources of wealth with which this country abounds. In fact, the inhabitants of the British Provinces of North America possess a small share of national feeling,—their education and habits have engrafted upon their minds a strong prejudice to any innovation upon their early prejudices,—and any movement approaching to an enterprise, would at the outset be met with terms of disapprobation. All this kind of influence, and much more of the same character, has had the effect of

causing the Canadian people to be less enterprising, and consequently less prosperous than their neighbours across the line. No one will scarcely question the truth of the statement, that it is possible to manufacture every description of goods in this country as successfully as is done in the Northern States of the Union, provided that a sufficient amount of capital, and the most skillful operatives are employed under experienced managers in the establishment. In Eastern Canada especially, laborers from the rural districts may be had for wages ranging from 20 to 30 per cent less than in the Northern States; and we see no reason why the *habitan* of Eastern Canada would not make as faithful and efficient an operative as the most ingenious American. The people of Canada have not had that peculiar training and education which would at once fit them for entering manufacturing establishments, but nevertheless, it is high time that a beginning should be made, and by degrees the spirit of enterprise will spread through the country, so that in a few years we may in a great measure be independent of every such article of manufactured goods as can be successfully and profitably manufactured in this country. The period has at last arrived for a decided and vigorous action in this great movement; and as a public journalist, we shall lose no opportunity in pressing the importance of giving encouragement to every useful enterprise upon the minds of those who favour us with their patronage. To crown those efforts with success, and to make Canada what it should be, a great and prosperous agricultural as well as manufacturing country, it is absolutely necessary that a more efficient description of Educational Institutions should be established under the patronage of Government or the District Councils, in which institutions the sons of the industrial classes could obtain at reasonable rates as liberal an education as could be had at the colleges, universities, and other seminaries of learning that have been established for the exclusive benefit of the members of the learned professions, as they are generally termed. The branches of learning taught in our highest public seminaries, and the influence that the pupil would there have engrafted on his mind, would assuredly as two and two make four, disqualify him to perform the important offices requisite to make a successful farmer or mechanic. This is a deplorable admission; and the influences that have produced this state of things, calls

loudly for a practical reform. The future prosperity of Canada, so far as monetary matters are concerned, depends upon the part that the hard-fisted farmer and mechanic take in producing wealth in the country. This being the case, it appears only reasonable that men who occupy such an important position in sustaining civilized society should at least be as well informed as any other class of our population. The character of the education that would in an eminent degree fit the labouring classes to soar above every obstacle or impediment that may be placed in their pathway, or which would have a tendency to check their ardour in honestly acquiring property and distinction, is such as would be taught and practiced in agricultural colleges or manual labour schools. Every District of Canada should have its model farm and agricultural college.—The branches of learning taught in those institutions would qualify a farmer or artisan to judge correctly of the influences that would bear favourably or otherwise upon any particular branch of their diversified and complex calling. A portion of each day would be devoted by the pupil in practically demonstrating the problems and lessons taught in the seminary, by which means both the head and hands would be properly trained, and made acquainted with the principles which regulate and govern every useful enterprise. The pupil who would receive a three or four years' instruction in the manual labour college, would be prepared to go forth into the world a perfect business man. His head would not be filled with merely a smattering of some of the abstruse sciences, nor would he be too proud to engage in some industrial pursuit, but his education and habits would give him favour and esteem in any honorable situation in life that he might be placed in. Such a young man would assuredly rise above the level of men of common capacity, because he would be instructed in all the branches of learning that would be of use to him in performing the practical operation of the farm or work-shop. Academies, colleges, and universities, or at least such as are established in Canada, are not suitable to the wants of the country. Such of the farmers' and mechanics' sons as are intended to occupy or follow the calling of their fathers, require a well-finished and liberal education, as well as the lawyer, the physician, the divine, or the merchant. This can be had in an institution where the practical operations of the

business, as well as the theory, forms a part of the education taught at the institution.

What has been done in other countries may be accomplished here, especially in agriculture, in the manufacture of the coarsest description of goods, and in supporting educational institutions.

—The people of Canada must learn to look to themselves for support—must build up themselves, and must not be hindered from prosecuting useful enterprises either by legislative enactments or by the apathy or usefulness of a few who have little or no national feeling, so far at least as the interests of Canada are concerned. The whole order of things will have to be changed—the farmer, the mechanic, and the merchant, will have to be more closely united in interest. The farmer will have to furnish the raw material for the manufacturer and the provisions for his operatives; and the merchant will at once see the propriety of employing a share of his capital in establishing and sustaining manufacturing enterprises. After carefully examining the influence that free trade will have upon the future prospects and destinies of Canada, we consider it candid in us to state, that in our opinion, it will in the course of a few years, do more for us than twenty such Canada Corn Bills as the one that has been in operation for the past two years.—The true friends of Canada have now important duties to perform; our national and individual credit must be sustained, and this can best be done by the productions of *bona fide* wealth in the country. The producers of wealth should feel an honest pride in giving their children a good practical education, so that as the country advances in civilization and wealth, their sons may occupy posts of honour and usefulness that they otherwise could not possess if the culture of their minds had been neglected. There are three points upon which, as a public journalist, we shall lose no opportunity of strongly impressing upon the minds of those who favour us with a reading, viz: the importance of making two blades of grass or ears of corn to grow where only one grew before; the necessity of encouraging domestic manufactures, by which means the real wealth of the country may be kept at home; and lastly, though not least, the cause of education.

We have no means of knowing what the government and legislators of the country would think at the proposal of having agricultural colleges and model farms established in this Pro-

vince, but in our opinion, if they were thoroughly made acquainted with their importance, they would at least give this class of useful institutions a fair trial, by establishing one in each of the two great divisions of the province.

To inform the public mind upon this subject we shall, in a subsequent number, give our readers a history of the celebrated *Fellenberg School at Hofwyl, Switzerland*, as furnished us by E. N. Horsford, Esq., an American traveller, through the columns of the *Albany Cultivator*.

The press has at last taken up the cause of improved agriculture; and sensible men have at last learned that it is quite as important to have a well educated race of yeomanry and mechanics, as lawyers, doctors and divines. The people of England have also had this subject brought under their notice, and have at last taken steps to establish a College at Cirencester, in Gloucestershire, a report of which we give below, copied from our able contemporary the *Agricultural Gazette*, London, England.

We have given this subject more space in our columns than its importance might seem to justify by some, but to us, it appears that the cause of education is so closely identified with the great and permanent interests of the country, that too much can not be said in its behalf. If every young man in Canada had had a three years' training in an agricultural school such as are established throughout Switzerland, there would then be no necessity of apprehending difficulty in competing with other countries in growing bread-stuffs for the British markets. Unless the people of Canada can be by some means or other aroused from their apathy, they will assuredly suffer from the influence of England's liberal policy. If it were possible to unite them as one man in building up their own infant country, and by every possible means develop its abundant wide-spread resources of wealth, the result of this movement would be beneficially felt in every branch of trade.

Many of our subscribers are doubtless apprehending serious evils from the repeal of the corn laws, and from the adoption of free trade principles. It may be some consolation to inform them, that every shilling we possess is invested in agricultural and manufacturing pursuits, and we have not the slightest doubt, but by economy and good management, we shall make our business as profitable to us under free trade principles as if the most arbitrary restrictive commercial laws were enacted.

We lately asked: *Where are the Schools for Farmers' Sons?* Now, even though we overlook the Professorship in the Edinburgh University, and the many agricultural schools in Ireland, yet this question shall not be altogether without a satisfactory answer; and for this we have to thank the *Fairford and Cirencester Farmers' Club*, or, rather, Mr. Brown, the member of that society, by whom they were urged and led in the course which they adopted.

On the 14th of November, 1842, Mr R. J. Brown, of Cirencester, in Gloucestershire, read before that society an address on the advantages of a specific education for agricultural pursuits, in which, after pointing out the importance of the subject, and the consequently *shameful* fact that this country is distinguished among all others by her neglect of it, he urged the propriety of establishing a public institution in their own neighborhood where agriculture might be taught, and he concluded thus:—"It has been suggested that such an institution should originate with the Agricultural Society, or with Government. We shall find that the practical way is to do our own business ourselves. We shall thus have an institution adapted to our wants. No one situation will do for all England. We hope of every district—the vales, the chalk, the red sand, &c.—that each will have its college. If one large establishment was reared, we may fear that it would be a failure; anything rather than the substantial practical institution that will turn out—not the finical gentleman, afraid of soiling his hands—but intelligent, active, hardy young men—who will maintain the substantial honest character of the English yeomen, combined with all that modern science and advancement, and careful training and moral and religious culture can do, to elevate them to the station in the country that they ought to fill. We are each of us the centre of some little circle. Let us advance the cause by advocating it amongst those we know; and, with God's Blessing, we may hope that, ere long, the cry for the efficient practical education of the rising generation of farmers will be so loud and general, that all difficulties will disappear, and we shall have the happiness of seeing an agricultural college on the Cotswold Hills—a model, we trust, for many others in the land." A committee of the Club was formed for the purpose of inquiring further into the feasibility of Mr. Brown's proposal; it met on the 19th of December, and drew up an address on the subject to the

landowners and tenants of the neighbourhood. This address was circulated in the beginning of 1843; by April of that year the movement had experienced such an accession of strength that a provisional committee, comprising many of the leading men of the district, was appointed, and a prospectus was proposed; in May the draft of it was agreed to—it was entitled "The Prospectus of an Agricultural College, or an Example Farm, in the Olite District, including the country commonly called the Cotswold hills, extending from Bath to Chipping Camden, also including a great part of Oxfordshire and North Wiltshire, part of Berkshire, &c." A capital of £12,000 was proposed to be raised by proprietary shares of £30 each, the control and government of the whole scheme was to rest in the shareholders, whose rights and responsibilities should be defined by a deed of settlement, in the same month, however, it was reported, by a committee appointed to consider the subject of responsibility, that it could only be provided against by charter or act of Parliament. At this time a committee was appointed to wait on the noblemen and gentlemen of the district and solicit support, and to attend and address the agricultural meetings of that year at Stow, Lechlade, Farringdon, Devizes, Chuppensham, Wotton Bassett, Teisbury, Gloucester, Malmesbury, Bath, &c., the country was also divided into districts, and one or more members appointed to canvass each. In January, 1844, it was decided to hold a public meeting on this subject, and it was held at Cirencester on the 22d of April; the report of the Cirencester Farmers' Club was there read, and resolutions founded upon it were moved by Earl Ducie and others: that the proposed institution was expedient, and that a committee of gentlemen be appointed to determine on the best plan of it, and on the best method of carrying the design into effect. It was at this stage in the proceedings, therefore, that the Farmers' Club dropped their direction, and handed the scheme over (as was most proper, considering the general interest it had now excited) to a body more fairly representing the district whose aid was required. It was now determined to apply for a charter through Earl Bathurst; and also to look out for a site, which was done by public advertisement.

In June the committee received the offer of a farm on a 48-years' lease from Earl Bathurst, and of £2000 towards the buildings, interest on which at 3½ per cent was to be added to the rent.—

They were also informed by his lordship that probably a charter would be granted; a general meeting was therefore called and held on the 1st of July, at which a company was formed, its trustees named, and its government agreed upon. On the 4th, a deputation was appointed to call a meeting during the Southampton Show of the English Agricultural Society, and to attend the same. This meeting was held on Wednesday the 24th, and it was attended by the Duke of Richmond, Mr Pusey, and other influential men, and resolutions were adopted, approving of the scheme. Previously to this, Earl Ducie, who had taken an active and effective part in the early meetings, canvassed in company with the secretary, and obtained the support of a number of influential noblemen and gentlemen then in London. During these various steps a share list had gradually formed, which enabled the committee to commence in earnest. In September, a head master was advertised for; on the 19th of that month, plans for the college buildings were advertised for; in November, a draft of charter and deed of settlement was produced, in December, Mr Seales, of Norfolk, was chosen head master; in January, 1845, the lands of Messrs Dawker and Hamilton were selected, and, with some alterations, fixed on as suitable for the college; on the 17th of March, Mr. Way was chosen professor of chemistry, the contract to build the college was entered into with Mr. Bridges, of Cirencester, his being the lowest tender, and on the 2nd of April he commenced work under the contract; on the 7th of May the royal charter, granted by the Queen on the 27th of March, was produced; it establishes the existing company into a body politic and corporate, under the name of "The Agricultural College," and grants a common seal, and ample powers and immunities; in June Mr. Townsend was chosen professor of engineering and natural philosophy; in August, Mr Woodward was chosen professor of natural history and geology, and Mr. Robinson as veterinary professor; a house in Cirencester was also provided for the reception of students, until the college should be ready for them, and it was opened on the 15th of September, and in the course of a week, about 20 entered.

The first term closed on the 19th of December,

the students had received the introductory and preliminary course of lectures on chemistry, geology and natural history; also very practical and valuable ones on the diseases and structure of animals; they were also accompanied by the Professors on weekly botanical and geological excursions, and the whole has given great satisfaction.

Thus has fairly and successfully commenced the useful labors of "The Royal Agricultural College," doubtless to the intention of Mr. Brown, who may so justly look upon the establishment of this institution as his own handiwork. We heartily wish the institution all the success he can desire, its prospects of success are fair; about 500 shares of £30 each have been taken; a large number of names are on the admission roll, arrangements are being made for the reception of out-students in the town house who may attend the lectures and witness the farm operations. Materials for a library and museum are gradually accumulating, and we have no doubt that when the thing is fully known, gifts suitable for these departments will flow in upon them. Great interest is being excited, and visitors begin to flock—all are highly pleased with the beauty, solidity, situation and convenience of the new buildings which were opened for the reception of students on the first week of this month, affording the perhaps unprecedented fact of a large public building built and occupied within the year.

We have entered into rather a long detail of the steps taken in this firm effort to found a College worthy of the great agricultural body, both because they most instructively illustrate what the perseverance of an individual may accomplish, and also because they indicate the proper course to be adopted in future efforts of a similar kind. Such efforts, however, must not be hastily entered upon—the ground for attempting the establishment of similar institutions should be the success of this, and its inability to receive the students who offer. Of course there will be ample room ultimately for many agricultural establishments of a similar kind, but the present demand for the means of such an education as they will afford, must be estimated by the overflow of students at Cirencester. The institution there is no local school, its establishment is known all over the county, and its present prospectus is addressed to, all everywhere who desire the advantages

\* In August, 1844, the council received the affecting intelligence of Mr. Townsend's death.

it offers. The position of its directors became gradually different from that which they at first assumed. Experience taught them that they could not establish a complete institution for the intended purpose by confining themselves to two or three countries; it justly appeared to them essential to success that the arrangements should be of the most perfect kind; and while the expenses necessarily incurred required that they should obtain a greater number of supporters, the charter which they obtained conferred on them that national character which justified them in seeking that support at a distance. We say, therefore, that the overflow of students here is the only safe index of the necessity for further institutions of a similar kind. No doubt such institutions will before long be numerous, and we heartily say—the sooner the better—but agriculturists must first be convinced by the usefulness of this one, of the advantage of a specific education for the members of their profession.

#### Introduction of the Alpaca into the United States.

An association has been formed in New York for the purpose of importing from Peru the Alpaca. Several thousand dollars have been raised, and a committee appointed to carry the object into effect. Among the contributors to the fund, rank the names of D. D. Campbell, of Schenectady, who gave \$600. Mr. Sheaf, of New York, \$600, and Dr. Wm. Terrel, of Georgia, \$300. An agent is to be sent out this spring, who is expected to return with the alpacas in the course of eighteen months. We copy the above from the *Albany Cultivator*, and trust that our Canadian friends will take a lesson from the example set there by their American neighbors. The plan adopted in introducing the alpacas in the United States, is the most feasible one of bringing about improvement in agriculture with which we are acquainted. Much may be done by combination, that would prove unsuccessful by isolated efforts. If the Alpaca or Peruvian sheep can be successfully raised in this northern climate, it is truly an object worthy of those who have the best interests of their country at heart. We shall watch with much interest the success of the association under notice, and if the Alpaca can endure the rigorous winters of Vermont, we may then with confidence take the proper steps to have them brought into this country. Some of our readers, probably, are not acquainted with the character

of those sheep, we therefore give them the following particulars from an American contemporary.

We have observed with pleasure the intention of the American Agricultural Association, at the suggestion of R. L. Pell, of Ulster county, to introduce the Peruvian sheep, or Alpaca, into the United States. This animal inhabits the slopes, table lands and mountains of Peru, Bolivia and Chili, enduring all the vicissitudes of climate. They are found 12,000 feet above the level of the sea, where they derive a subsistence from the moss, &c., growing upon the rocks, exposed to all the rigors of the elements, and receiving neither food nor care from the hand of man. The shepherd only visits them occasionally; yet such are their gregarious habits, that the members of one flock seldom stray away and mix with another, being kept in discipline by the older ones, who know their grounds, and become attached to the place of nativity, to which they return at night, evincing an astonishing vigilance and sagacity in keeping the young ones together, and free from harm. Hence there is no need of branding them. So great is the intelligence of some leaders of a flock, that much value is on this account attached to them by their owner—part of whose duties they perform. These animals, says William Walton, are found on the snow-capped mountain Chimborazo, 11,670 feet above the sea. In this tropical region excessive heat is experienced in the month of August during the day, and towards evening the thermometer regularly falls many degrees below the freezing point, and the next morning rises from eight to twelve degrees above it,—all of which great changes they endure perfectly well. In other parts of the Andes mountains, during half the year snow and hail fall incessantly; whilst in the higher regions, as before noticed, every night the thermometer falls many degrees below the freezing point, and the peaks consequently are constantly covered with an accumulation of ice. The wet season succeeds, when lightning flashes traverse the clouds in rapid succession, followed not by showers, but by torrents of rain, which after collecting, fall headlong from the rocks, leaving the slopes almost bare of soil, and spreading desolation wherever they pass. Still the Alpacas abound and thrive. Their teeth are so strong that they can easily crush and masticate vegetable substances too hard and tough for ordinary cattle. In the formation of their stomach

they resemble the camel, and can undergo extreme hunger and thirst. Their meat is tender, wholesome and savory, and in that country is recommended by physicians to invalids, in preference to fowls—for all declare that their meat is extremely wholesome, and as palatable as that of fat sheep in Castile. Mr. W. further remarks, that in his time there were shambles in the Peruvian towns where it was constantly sold.—The quality of Alpaca meat could not fail to be good, when the cleanliness of the animal and nature of its food, and neat and delicate manner in which it feeds, are considered. They eat the purest vegetable substances, which they cull with the greatest care, and in habitual cleanliness surpass every other quadruped.—The hardy nature and contented disposition of the Alpaca, cause it to adapt itself to almost any soil or situation. The best proof of its hardiness is its power to endure cold, damp, hunger and thirst—vicissitudes to which it is constantly exposed on its native mountains; while its gentle and docile qualities are evinced in its general habits of affection towards its keeper.

No animal in the universe is less affected by the changes of climate and food, nor is there any one to be found more easily domiciliated than this. Another remarkable feature in the Alpaca is, that it does not perspire; for which reason, and its peculiarly cleanly habits, the fleece does not require washing before it is taken from the back. Although often confined to regions where

“Snow, piled on snow, each mass appears  
The gathered winter of a thousand years,”

the Alpaca is free from all diseases incidental to commonsheep. The chest is guarded by a collosity which comes in contact with the ground while the animal reposes, and it protects from catarrhs or other disorders disabling the limbs. In whatever point of view we contemplate the properties and habits of this animal, it will be found suitable stock for all our western and northern States; waste and unprofitable pastures would suffice them, they would browse on wild grasses and herbage that sheep and cattle reject.

They will yield 12 to 15 pounds of wool, which is suited for the finest class of goods, and calculated to compete with silk. It is almost as fashionable now as that fabric, being worn by her Majesty Victoria. In 1834 the quantity of Alpaca wool imported into England was 5700 lbs., valued at \$16 per quintal—in 1842, to July 9th, 1200,

000 lbs., valued at \$25 per quintal—up to 1844, 8,657,164 lbs. were imported into Liverpool alone, valued at \$30 per quintal. In France the wool is used instead of Angora for cashmeres and merinoes. It has been proved to be admirably well suited for mixed goods; and so firmly is its reputation now established that there is every certainty of a growing demand, to meet which an additional quantity will annually be required. It is supposed that owing to neglect of the inhabitants of Peru, there has been an enormous decline in the number of Alpacas, which will eventually render them difficult to be obtained. We would therefore urge strenuously on gentlemen of wealth,—manufacturers,—merchants,—and agriculturists—and in fact all who feel an interest in the welfare of the country, to come forward at once and assist the Society in an undertaking so worthy of all praise. We understand the cost of bringing out three hundred will be \$10,500, delivered in New York; of which sum three thousand have already been promised. We sincerely hope those engaged in an enterprise so noble will not allow the matter to flag.—*N. Y. Jour. of Com.*

#### The Best Medicine—Frequent Bathing,—

Frequent bathing—not once or twice a month, but every day if you please—in warm or cold water, is one of the grandest medicines in the world. It makes one heartier and freer from disease than a ton of medicine could. Read what the editor of the Boston “Social Reformer” says about it:

“From one to five pounds of decayed animal matter passes off daily by insensible perspiration from a human body. The white dust which collects on the skin, sometimes called goose flesh, is refuse matter of the system. Viewed with a solar microscope it looks like a butcher’s cart of putrid meat. If the porous of the skin are closed and imperceptible perspiration is stopped, this corrupt matter is thrown upon the lungs, liver, or intestines, causing colds, consumption, fevers, &c., &c. The remedy is found in the specific that will restore the system to its proper balance, open the natural avenues for the discharge of poisonous accretions, and relieve the internal organs from burdensome clogs that are thrown upon them. Cold water has been proved to be this remedy in a pre-eminent degree. It is nature’s own remedy. And nothing but its simplicity, its commonness, and the almost universal hydrophobia which prevails could have kept its virtues so long concealed.”



## Unburnt Brick Houses.

In reply to the following enquiry of "A Subscriber," we would state, that of the two, the unburnt brick wall is preferable to the "cob wall." The difference of the expense of the two modes of building clay walls is very trifling. A number of houses built in the Home District with unburnt brick, have given entire satisfaction—two of which were erected in the summer of 1836—Others have most signally failed, principally through the mismanagement of the builder.—From what we have seen and heard of this description of houses, we are satisfied that they equal the character we gave them in the second volume of the *Cultivator*, but still, we consider it due our numerous subscribers, to state, that if we were about to build a dwelling which would require a considerable expense in furnishing, we should not run the risk of erecting unburnt clay walls. The greatest objection we have to them is, that the plaster on the outer wall is apt to crumble off, though there are many exceptions to this rule; and another serious objection is, that the rats will burrow holes in the walls. We have not committed so gross an error during our editorial experience, as that of recommending unburnt brick houses to the attention of the farmers. We are, nevertheless, confident, that if the caution we advised be observed, that they are quite equal to what we stated in the article alluded to by our correspondent. What annoys us so much is, to see so many foolishly build walled castles out of a material that is only calculated for low cottages.

DEAR SIR,—

Will you be good enough to give insertion to this document in your widely circulated, and not less valuable periodical, in order to clear up some doubts under which the inhabitants of this section of Canada labour under, from a conviction that they will not only be serviceable to myself but to many of your readers. I purpose the ensuing spring to build a house of *unburned brick* according to the theory you laid down in Vol. 2, No. 2, of the *Cultivator* for February, 1843. But in the first volume you referred to the *cob-wall* principle, though I have not that article in my possession, not being fortunate enough to be a subscriber at the time when your journal started into existence. I now request you to inform me whether the *unburned brick wall* or the *cob wall*

is most preferable as regards durability, cheapness, and neatness? And also, if stone cannot be readily procured for the foundation, whether oak, walnut, or such durable timber, will not answer as a substitute, as stone is difficult to be obtained in several parts of this district.

I have been nearly put out in my calculations, owing to the reports of some individuals who broadly assert, that houses constructed of *unburned brick* are both damp and unhealthy, which perhaps is erroneous; but as you are thoroughly acquainted with the properties of those built on Yonge Street, in the vicinity of Toronto, you can afford your readers every satisfaction, on a principle of utility that bids fair ere long to take the precedence in the formation and construction of farm houses in all parts of Western Canada.

I wish to know whether it has fallen under your observation, or that of your readers, whether it is more beneficial to pasture *faix wheat* in the autumn or in the spring of the year? or whether it is advantageous to the crop to do so at all?

Wishing you every prosperity, and trusting that the yeomanry of Canada will not by their coldness and apathy allow your valuable journal to die for want of that generous support which your indefatigable exertions in support of the cause of agriculture so richly merit,

I am, dear sir,

Yours faithfully,

A SUBSCRIBER.

St. Thomas, L. D.,  
24th March, 1846. }

## Bonaventure Agricultural Society.

R. W. Fitton, Esq., Secretary of the County of Bonaventure Agricultural Society, district of Gaspé, has lately favoured us with a most interesting account of the condition of agriculture in that distant corner of Canada, which we would gladly have published had we been confident that the communication in question was intended for publication. The population of the county is about 9000, and the importation of bread-stuffs equalled last year in value £5000. This should not be the case when farmers can exhibit at the Agricultural Shows samples of grain grown in the county that weigh per bushel, wheat, 69½ lbs., barley, 54½ lbs., and oats, 51 lbs. It is rare to meet with so heavy samples of grain as is reported by our correspondent; and although the

climate may be rigorous in the extreme, still, judging from the success of the farmers of the state of Maine, in growing bread-stuffs, when a liberal Bounty was awarded by Government, we are favorably impressed, that especially along the sea board, very productive crops of wheat could be grown.

The Bonaventure Agricultural Society has set a most noble example to other Agricultural Societies, in ordering through us a list of agricultural implements to the value of £22 10s., and a list of seeds to the same value, and also a respectable list of subscribers, to the *Cultivator*, the money for which has been sent in advance to the Publisher, Mr. Eastwood. The order shall be punctually attended to, and any similar demands shall be duly and properly executed, when any society, or club, or individual takes the precautionary steps to place in our hands the necessary means to do so.

#### Prospects of the Wheat Crop.

The snow has disappeared, so that an opinion can be formed of the condition of the wheat plants. In a late tour through an extensive wheat district, we noticed that the wheat plants looked remarkably healthy, and so far as present indications would allow us to judge of the coming harvest, we feel warranted in stating, that there is a greater breadth of land sown with wheat than the past year, and the prospects on the whole, were never so favorable for an abundant harvest, as is the case at present. One cause of the wheat plant looking so uncommonly healthy at this period may be traced to the fact, that this class of plants above all others, delights in a dry firm soil, a state in which nearly all soils were in last autumn and winter, owing to the extreme drought which prevailed here last summer. Those pleasing hopes will doubtless in hundreds of instances be destroyed by the heavy rains that may be expected in the early part of this month, which will in all probability be followed by severe frosts. All who have crops that suffer from this influence, should learn a lesson, from the failure, and endeavour if possible to drain their wheat fields the coming summer, so that the young and tender wheat plants another year may not become so thoroughly saturated with water as to destroy their vitality, or retard their growth, so as to prevent their coming forward to an early and productive harvest. On sandy soils, heavy falls of

rain have an opportunity to percolate, by which means the wants of the constitution and habits of the plant, in this important particular, are secured; and hence the principal cause that dry sandy soils will yield a larger and more certain yield of wheat in those seasons which are distinguished for the injury done the wheat crop in the spring months, by freezings and thawings, than close retentive clays. Soils of the latter quality may be made comparatively dry by draining, and by judicious cultivation can be made to produce more than those soils that are naturally dry or well adapted in this particular for the fall wheat crop, simply because they contain a much larger store of the essential salts and other food requisite to bring forward the crop to a full and early perfect on. If any of the readers of this article should be so unfortunate as to sustain a loss, by having one half their wheat plants destroyed from excessive moisture and spring frosts, they will then probably see the propriety of adopting a more efficient method of drainage.

If the season should be favorable for bringing forward the wheat crop to full maturity, the demand for laborers cannot be otherwise than unusually great the next harvest, inasmuch as the facilities for agricultural laborers purchasing and settling upon wild lands were never greater than at present. This fact should stimulate the friends of agricultural improvement to exert their best endeavours in introducing into the Province some or all of the labor-saving machines for harvesting grain, that our American neighbors have lately invented.

*Save your Ashes—Not sell them.*—Those that have good house ashes are informed that over one half of all earthly matter in potatoes is pure potash, from the lack of which most farmers lose from 50 to 100 bushels per acre every year. Suppose one has available potash enough to produce 140 bushels of this valuable crop per acre, and enough of every thing else that Nature uses to form potatoes to make 300 bushels. There the absence of this indispensable alkali will occasion a loss of 160 bushels. And yet in one ton of good potatoes there is but 12 lbs. of potash. As we have stated in another article, 59 per cent. of the ash of corn stalks is carbonate of potash (pearlash.) Save the alkalis and give them to your hungry crops.

*Eye Ointment*—1. Sulphate of zinc (in fine powder) 5 drachms; lard, 1 pound. Mix ~~carefully~~.

## Free Advertisements.

A. B. of the Township of Chinguacousy requests to know whether we charge for inserting prize lists of farming exhibitions or not, and whether it would not be to our interest to give publicity to all such lists. In reply to those enquiries we would state, if this suggestion was practiced by us, our journal would become a mass of statistical information that would be of trifling moment to the general reader. We have from the commencement of the enterprise been anxious to earn a national character for the *Cultivator*, and if this object was ever desirable, it is certainly more so at the present period than any which preceded it since the settlement of the country. The style and character of the *Cultivator* disqualifies it to a great degree for a general advertising medium; its wide circulation, however, among the practical farmers and mechanics of the country—who are its real bone and sinew—makes it a most valuable advertising sheet. It now appears in a suitable shape for binding, and is doubtless destined shortly to occupy a prominent position in each farmer's library in the country, as a book of reference upon the leading questions of practical interest to this rising country. It is therefore desirable that only such matter should appear in its columns as would be as interesting to its patrons and readers ten years hence as at the present moment. With this view of the question we feel free in stating that only such advertisements shall appear in the *Cultivator* as are in keeping with its great and leading object, viz: the advancement of the agricultural and manufacturing interests of the country.

It appears strange, that any person at all acquainted with business, should for a moment suppose advertisements could be published free of charge in an agricultural paper any better than in one devoted to politics or literature. For our own part, we can fearlessly state, that had we commenced our editorial career in agitating the country in the capacity of a violent political partizan, we should have been handsomely remunerated for our trouble, both in subscription and advertising patronage. A district agricultural society, with whose financial business we are intimately acquainted, last year published a list of prizes amounting to £75 in four political papers, all of which were on one side of politics, and the bills sent in by the proprietors of those four

papers, for this small service, amounted to the neat and handsome sum of £103. We have now toiled hard upwards of four years for the agricultural interests of Canada, and up to last year the business was ruinous in the extreme. The profits of last year fell a long way short of paying the legal rate of interest on the capital invested, in establishing our magazine, when a fair value for time is included in the investment.

## Gore District Agricultural Society.

Some kind friend has sent us the *Gore District Agricultural Advertiser*,—an annual sheet published by the Society of that District,—for which we feel exceedingly grateful. The *Advertiser* contains a compendious report of the proceedings of the society for the past year, and shows in a most satisfactory manner, how every farthing of the Society's money has been expended. For the information of our readers, we shall give a synopsis of the contents of this truly valuable sheet. We say valuable, because it is drawn up in a most masterly and business-like style, and is calculated to strengthen the society and establish confidence in its operations throughout the length and breadth of the District.

The rules and regulations of the society are embraced in twenty-four articles, which form a leader to the sheet, or *Agricultural Advertiser*.

The office-bearers for the present year consist of James B. Ewart, Esq., President; David B. Springer, Thomas Davis John Weir, and Allan Good, Esqrs, Vice Presidents; and John Wetenhall, Esq., Secretary and Treasurer. From six to eight Directors are chosen from each of the fourteen best settled Townships of the District, and besides these, there are nine general Directors, who we suppose perform the office of Executive Committee. The receipts and expenses of the Society are clearly reported in the *Advertiser*.

There were four local Shows and a General Show and Ploughing Match held the past year, the names of the successful competitors are reported, together with the value or character of the prizes drawn. The list appears full, embracing almost every article of agricultural and manufacturing production, and the prizes are on the whole liberal.

We are personally acquainted with a large number of the managers of this wealthy society; and from their known ability and patriotism, we

have the greatest confidence that the association will flourish under their able management.

Each member of the Gore District Agricultural Society is provided with a copy of the *Cultivator*, upon the payment of the small annual subscription of five shillings.

#### Black Sea Wheat.

A late number of the *Bathurst Courier* contained a communication from John Booth, Esq., to S. G. Malloch, Esq., Treasurer of the Perth Agricultural Society, upon the merits of the Black Sea or Odessa wheat. Being anxious to apprise our readers of every occurrence of interest to the farmer, we copy the following extract from the correspondence alluded to above. We are personally acquainted with the writer, and can vouch for the soundness of the facts and views he has advanced. Mr. Booth is a practical *hard-fisted* farmer, and is not in the habit of hastily forming opinions, or of coming to conclusions.

As a subject for your consideration I will beg to remark, that if I am not misinformed, the Johnstown District Agricultural Society purchased last year 500 bushels of the Odessa Black Sea wheat for seed, and which I believe was distributed among the patrons of the Society and others in the vicinity,—and I am quite sure that there will not be 50 bushels of it sown this year where 500 were last. It is found among us to be very subject to rust, although the quality is good when the soil is properly cultivated and the season propitious to its growth; and the same remark will equally apply with regard to the Siberian wheat. The farmers of this district will, as a spring wheat this year, almost universally sow the Black Sea wheat; but it is not the Odessa Black Sea, it is known here as the Stocking wheat; its general character is, that it will not rust, will stand the drought, and will produce a better crop than most other wheat, it is heavily bearded, the grain dark colored, very hard, and weighs heavy. And with us another very material benefit is derived from the cultivation of this wheat beyond that of most other kinds, and that is, it will answer to sow it as late as from the 20th to the 25th of May, and be more sure of a crop than any other kind late sown; and in consequence of the ravages of the weevil in early sown wheat we are obliged to sow late, in order that when the wheat arrives at that state of maturity most propitious for the deposit of the ovum or nit producing the weevil, the fly

making the deposit will have previously disappeared, or in other words, it comes to maturity too late to be subject to the attack of the weevil by late sowing, and the only way for the farmers of this district to make anything at raising wheat, is to sow the description of Black Sea wheat commonly known as the Stocking wheat, and to sow it late. I think I have good authority for stating that this kind of wheat will not, in the foreign market, maintain as good a price as many other kinds, but at the same time, I am equally well informed, that the flour is fully equal to or better than second rate flour of the best samples of that of any other kind, if skilfully manufactured. And the difference in the price of this wheat, and that of other good samples, has ranged at from 1d. to 6d. per bushel in our market, and I think the average will not exceed 3d, we sold ours in Brockville at 6s, and our fall wheat of middling sample for the same; and if it should have been found not worth as much by 1s. on the bushel, when other good samples would sell for 5s., I would prefer to raise the former kind as the most profitable, for I can safely say that I had rather undertake to raise 100 bushels of the Stocking wheat than 60 of any other I know of. We raised last year about 300 bushels of this kind of wheat, and in the same field, and indeed I may say in the middle of the same field with the Black Sea, we sowed as much ground with the Siberian wheat as would have produced 80 bushels of Black Sea, and the result was that the Siberian wheat was so rusted that we never thrashed it, but barely made the best use we could of the straw, yet this might not have been the case if we could have sown early. In recommending this kind of Black Sea wheat to your notice, I would wish to be understood that if in your district the weevil does not infest your crops, you may probably make choice of the Siberian or Odessa Black Sea wheat, and by early sowing avoid the rust and find the result favorable, but should the weevil prove troublesome I would by all means recommend the other kind.

*A Remedy to take Fire out of a Burn.*—Beat an apple with salad oil until it is a poultice, pretty soft; bind it on the part, and as it dries, lay on fresh. You must be sure to pare, core and beat your apple well, for fear of breaking the skin of the burn. But if the skin be off, there is nothing in nature so sure to take out the fire.

## An Essay upon the Wheat Fly.

By ASA FITCH, M. D. SALEM, NEW YORK.

The above is an article in pamphlet form from the *American Quarterly Journal of Agriculture and Science*, containing some original observations and interesting facts respecting the wheat fly. Under this name the author includes the *Cecidomyia tritici* or wheat fly, previously described by the naturalist Kirby, and another species differing from the above in its spotted wings, and first noticed by himself. Belonging to the same genus and alike in habits and in transformations, they may both be conveniently described under the same common name.

## ITS FOREIGN HISTORY.

The first distinct and unequivocal account in this insect, is that given by Mr. Christopher Gullet in 1771, and published in the Philosophical Transactions of the Royal Society for that year, from which it appears, that its ravages had at that period been felt by the farmers of England, although imputed by them to a wrong cause. It will be seen in the sequel, that both in this country and in Europe, agriculturists have often mistaken for this insect a small black fly of the family of the Muscoid, which occurs abundantly in wheat fields, but is comparatively harmless. Subsequent to the above, we find in the Transactions of the Linnæan Society for the year 1797, a paper by the celebrated entomologist Kirby, giving a scientific description of this insect, and correctly defining its generic and specific character. He refers it to the genus *Tipula* or gnats, of the great order of Diptera or two-winged insects of Cuvier or Latreille. The genus *Tipula* having been sub-divided into numerous sub-genera, the species in question falls under that of *Cecidomyia*, and is correctly styled the *Cecidomyia tritici* of Kirby, though often spoken of in our agricultural papers under the name of the *Tipula tritici*.

From the labors of late writers, particularly Professor Henslow, and John Curtis, who have given precise and accurate descriptions and delineations of this insect, it appears certain that it is identical with the clear-winged wheat-fly of this country. The spotted-winged species has not been noticed by them, or if noticed, confounded with the preceding.

The ravages of the wheat-fly on the other side of the Atlantic, at different periods, appears to

have been very extensive, having been noticed in most of the southern and eastern counties of England, in some districts of Scotland, and in the north of Ireland. Whether it occurs upon the continent of Europe we are not positively informed. It is not noticed by Macquart, either in his Diptera of the north of France or in his Natural History of Dipterous Insects, while other naturalists are of opinion that it has been found both in France and Germany.

## ITS DOMESTIC HISTORY.

It will be unnecessary to specify particularly, the various notices of this insect, that have appeared in the agricultural papers of the northern States during the last twelve years. The more important and valuable of these may be found in the volume of the *Cultivator* and the *New England Farmer*. An excellent summary of the history and habits of the wheat-fly, both in this country and abroad is also given in Dr. Harris' Report on the Insects of Massachusetts. In the earlier notices of this insect, great difficulty was felt by practical farmers in ascertaining the precise nature of the animal which caused annoyance. The correct view, however, now universally prevails, that it is a fly, peculiar in its habits, and differing from all those previously known in this country.

Mr. Jewitt says the wheat-fly first appeared in western Vermont in the year 1820. (*New England Farmer*, vol. 19.) It was not until the years 1828 and 1829 that it became so numerous as to attract attention; the same year, he it observed, when its ravages were so annoying in Scotland. It was in the northern part of Vermont, that it became so excessively multiplied at this time; and from that as a central point, it seems to have extended in nearly all directions. In this vicinity, one hundred and twenty-five or fifty miles south of the locality above mentioned, it was observed in 1830; and in 1832 the wheat crops were so completely destroyed by it, as to lead to a general abandonment of the cultivation of that grain.

The history of its career appears to be quite uniform in most of the districts hitherto visited by it. About two or three years after its first arrival at a particular locality, it becomes most excessively multiplied, and the devastations which it then commits are almost incredible. Many cases have occurred, in which a diligent search by different persons have failed to discover a sin-

gle kernel of grain in any of the heads of an entire field. This havoc, so extreme and general, but not universal, lasts but one or two years. The numbers of the pest and its consequent ravages soon become sensibly diminished, and after the lapse of a few seasons, the cultivation of the wheat crop is again found to be comparatively safe. Facts show that the fly has now become a permanent inhabitant of many parts of the country, for the most part attracting little attention, but at intervals appearing in great numbers. This being the case, it is important that the entire history and habits of this insect should be accurately traced out.

#### ITS HABITS.

From the more detailed remarks of the writer, it appears that this fly is an exceedingly minute insect, less than the one-eighth of an inch in length, with two wings, spotted in one species, in the other clear. The antennæ are about as long as the body, the eyes deep black, face yellow as also the thorax. The abdomen is throughout of an orange color, more inclining to red than yellow. There are six legs of a whitish yellow color, long and slender, and nearly of the same diameter through their entire length. All the parts of the body are clothed with minute, slender, longish hair. The male is somewhat smaller in size than the female. In searching for this insect in the field, care must be taken to avoid mistaking for it a small black fly, about one-third of the size of the common house-fly, and resembling it in appearance.

The wheat-fly may be met with daily, from the fore-part of June, until as late as the middle of August. Although it congregates in swarms about fields of wheat at the time it is in blossom, yet it also occurs in a great variety of other situations. It often enters houses, upon the windows of which it may be observed dancing along the panes of glass. It may also be taken among the grass of pastures and of alluvial meadows that have never been turned up by the plow.

The fly during the sunshine of the day, moves about but little, remaining mostly at rest, or lurking about in the shade furnished at the roots of the growing grain. In the twilight of the evening, it becomes active, and continues so, it is probable, during the entire night; for before the morning sunrise, it may be seen abundantly upon the wing, though less agile than in the evening, as if now become somewhat wearied, or rendered

sluggish by the coolness and dampness of the night air. It is during the evenings which succeed hot days of sunshine, that it appears to be most busy and full of life. If a field infested with them be visited with a lantern at this time, such hosis as were little imagined, will be found busily hovering about the grain, the most of them with wings and legs extended, dancing, as it were, slowly up and down along the ears, intently engaged in selecting the most suitable spot where to deposit their eggs. This being found, the insect alights, and standing upon the outer glume or chaff of the kernel, curves its abdomen so as to bring its tip in contact with the surface of the glume. It now toils industriously to insinuate its ovipositor through the scale, which is not accomplished without considerable exertion. Thus the eggs are deposited, from six to ten in number. These eggs are nearly round, very small, of a slightly yellowish color, and are hatched in about a week after they are deposited.

From this egg proceeds the larva, which is a minute, oblong, soft worm, without feet or hairs, whitish at first, but soon changing to a bright amber or orange yellow color. It moves but slowly, by a wriggling motion of its body. When full grown, this worm is less than the tenth of an inch long, of a rich orange color, and oval shape. Having reached this state about the time that the grain is ready to be cut, it waits a warm rain or heavy dew, when it descends, most probably by night, by gliding down the moistened stock and enters the ground. Here it remains during autumn and winter, preparing for its transformation into a winged insect, when the general heat of spring shall arouse it to a new existence. Facts show that when the grain is cut before the descent of the larva or maggot, great quantities of them are often carried into the thrashing-floor, and may be found among the screenings of the wheat. These being kindly emptied out by the farmer into his barn-yard, have a secure asylum provided for them until the coming season.

#### ITS NATURAL ENEMIES.

It appears that the most effective destroyer of this insect, is the common yellow-bird. (*Fringilla trislinx*, Lin.) This beautiful little bird is in the habit of frequenting grain-fields when the fly is at work, and woodpecker-like extracts the nascent larva from the ears of the wheat. Alighting, it adroitly grasps the wheat-stalk just below the ear, and clinging fearlessly to it, even when

swayed to and fro by the wind, with its bill, it parts down the chaff from the grain, and rapidly picks off the worms. Ignorant persons suppose that its object is the kernel of the wheat, not knowing that in common with all our small birds it is the natural friend and ally of the farmer. Sowing the field with lime, at the time when the wheat is in blossom, has been much urged as a remedy against this fly, but facts show that it is not to be depended upon.

Early sowing in the fall so that the wheat will be too far advanced in the spring to be penetrated by the fly, appears the most ready and practicable means of avoiding its destructive effects. In many cases, it is undoubtedly efficacious, but the observations of the writer tend to show that the swarming of the fly covers a space of six weeks or more, during some part of which, the grain must necessarily be in the proper state for the deposition of its eggs.

He recommends that the screenings of the fanning-mill be closely examined, and if the minute yellow wheat worms are numerous in them, the farmer should consider it a sacred duty which he owes to himself and his neighbors, to consign these screenings at once to the flames. If there are but occasional worms among them, let them be emptied into the hog-trough, but never empty them upon the ground, or among the straw of the barn-yard, unless they appear to be entirely free from those vermin. Farther experiments are necessary to determine in what manner the perfect insect may be most successfully attacked.—*Far. and Gard.*

#### Township of Whitby Agricultural Society.

This society at their general meeting in January last, agreed upon a list of prizes for the Spring and Autumn Exhibitions, and resolved that the schedule should be advertised in the *Cultivator*. The Secretary transmitted the proceedings of the Society to Mr. Eastwood, under date March 10th, 1846, which was sent to us with other papers, at the earliest opportunity; but by some means unknown to us, the package did not reach us until it was too late for the advertisement in question to appear in the April number of our journal.

We are delighted to see that the Whitby Society intends to encourage the growth of flax and hemp. This country is admirably adapted to the growth of these plants, and, as we have often

stated, under proper encouragement, could be made to produce and manufacture not only all the flax and hempen goods required for this country, with highly remunerating profits to the producer and manufacturer, but could with all ease supply the British markets with upwards of a thousand tons of this article annually of the very best quality. The great aim that agricultural societies should keep in view is to encourage the production of *bona fide* wealth in this country. Prizes should be awarded for the best products of every branch of useful labor; and in this way a spirit of laudable competition would be infused in every division of agricultural and mechanical labor. When prizes are awarded for such articles as flax and hemp, in our opinion no illusion should be made to the actual quantity produced upon a given quantity of ground, because four-fifths of our virgin lands will produce extraordinary crops of either of these plants even under the most slovenly cultivation. The only thing requisite is care in the handling; directions for this department of the business have been fully given in former volumes of our magazine. We shall therefore withhold our views and experience upon those points until some of our subscribers solicit information upon the proper method of preparing hemp and flax for market, together with the costs and value of the article.

*Terms of our Paper.*—After all the explanation that has been given respecting the terms upon which we afford the *Cultivator* to Clubs and Agricultural Societies, it appears strange that any should not be acquainted with our wholesale prices. Suppose a person orders eight copies at 3s 1/2d. each, or remits us 25s. for that number, and at some subsequent period remits us other 25s. the latter remittance would entitle him to order twelve copies, which would be at the rate of 2s 6d. per copy for the twenty ordered at the two periods; all other orders made by the same person for the current year, would be supplied at the low rate of 2s 6d. per copy.

No one need expect the work for 2s 6d. unless the amount ordered equals twenty.

*To cure Deafness.*—Take clean fine black wool, dip it in civet, and put it into the ear: as it dries, which in a day or two it will, dip it again; and keep it moistened in the ear for three weeks or a month.

## On Raising Cabbages, as Practiced in Old Virginia.

Mr BATERAM —If you will allow me a place in your paper, I will give you the results of my experience and observation in raising this great luxury of the family—CABBAGE.

My grand-parents and parents were old Virginians; and it is well known an old Virginian thinks it a great privation not to have a head of cabbage with a boiled ham or shoulder of bacon for dinner.

The cabbage crop is not a very certain one in this country; but the mode of culture practiced by my father, and myself thus far, I think is undoubtedly the safest and best. Our plan is this; from the 1st to 10th of May, we level and pulverize our ground with a hoe after plowing or spading. We then make small hills about 3 inches high, 18 inches in diameter and 23 or 30 inches apart from centre to centre. In each hill we scatter about 10 to 20 seeds and cover three fourths of an inch or an inch with fine earth. After they grow to the height of about two inches, we draw out all but three plants; and in case a hill should fail to grow, we take a knife and run under an isolated plant, raise it with its roots surrounded by its mother earth, and transplant the whole in the missing hill; thus never disturbing its early and tender growth. After the plants grow to six, eight and ten leaves, we conclude all out of danger from bugs and worms, we then remove the surplus plants, (leaving one; one in the hill) for table use during summer, or feed them to the stock.

I do not now remember that a crop ever failed with us entirely; at any rate ours were invariably much superior to our neighbors who sowed the seeds in beds and transplanted in the garden in the usual way.

My conclusions why this plan succeeds better are these, when the plant is drawn from the bed and transplanted into a different piece of ground, the soil is foreign, and as with a human being in a strange and different climate, it must become acclimated, or adapt itself to the new and strange soil, besides the time of taking new root, while doing which it loses its vigor of youth and fails ever to reach its wonted size.

The remarkably good season the past year, after the backward spring, brought my cabbages to very great maturity, and, in fact premature; because after they had formed large and well, before pulling time they took a second growth, burst

through the centre of the heads, shooting up some one or two feet above the head, which destroyed most of my crop; this was from too early planting, (21 April,) and the extraordinary season. Seed thus planted, need not be so early by two weeks.

Respectfully yours,

Columbus, March, 1846.  
—Ohio Cult.

M.

*Transferring Bees.*—If the hive be infested with moths, and the object in transferring is to get rid of this nuisance, or if the object be to furnish new comb for the bees to breed in, as the cells of the old comb become reduced at every time a new race is produced in them, then the operation should be performed as early in spring as the bees can get their living, and for this there is no definite time. We have had bees that gained 12 lbs. to each hive in the first week of April, 100 miles north of this: it was when the spring was forward and some forest trees were in bloom. Again bees have starved to death the first week in May, when there was an abundance of flowers and blossoms, but the weather was cold and stormy for a long time, and the bees had no honey on hand.

In transferring bees it is best to have a piece of comb with honey in the hive—it can generally be had in this city at all seasons—this will support them if cold weather should immediately succeed the transferring and it will encourage the bees and induce content in their new habitation, it is best to have a piece of brood comb also.

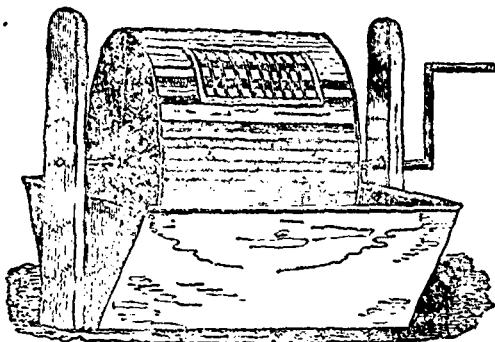
In transferring bees in summer, it should be done after they have swarmed as much as desired, and in season for the bees to get honey enough for a winter's store.

There are various modes of transferring; some drive them out by water, others by rapping on the side of the hive some time till the bees are wearied of the noise, and are glad to change their old for a more peaceful residence. We have transferred them by smoking, with old leather, such as shoes and boots, till they became dormant, and passively submitted to any disposition the owner would make of them. In a few hours they revive as bright as ever.

*Laziness.*—Laziness grows on people; it begins in cobwebs and ends in iron chains. The more business a man has, the more he is able to accomplish; for he learns to economize his time.



## A POTATO WASHER.



We copy the above sketch of a potato washer from the English Agricultural Gazette, which describes it as simply a churn-like cylinder, with open bars placed at such a distance as to prevent any of the potatoes from falling through, except very small ones. As it revolves, the lower part passes through a trough of water, and thus washes them. The cylinder may be easily unshipped from the frame anytime desired. We have seen something similar to this in our country, and it was found very convenient, especially where large quantities of potatoes were used. Potatoes, and indeed, all roots, before being fed to stock, ought to be well washed.—*Am. Ag.*

## Experiments in growing Indian Corn.

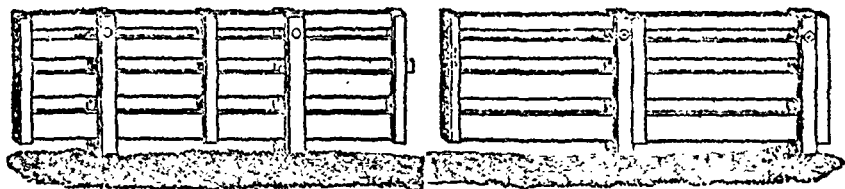
Ed. Cultivator—One and a half miles north of this village, is an extensive black ash swamp, three miles east and west, averaging three-fourths of a mile in width. Three years ago, a road was made across the width of this swamp, by laying logs crosswise compactly together, and covering them with muck taken from ditches, cut three feet deep on each side of this causeway. Judge Clark and other proprietors of this swamp, cut a ditch six feet wide at top and three deep connecting with the ditches of this road, running east  $1\frac{1}{2}$  miles to the termination of the swamp at Black Brook. This season Judge Clark tried the experiment of growing Indian corn on a field of  $1\frac{1}{2}$  acres, directly at the junction of the road and the main ditch. The black ash and elm trees had been cut off three years; a few turneps were grown on it the first season; last season a crop of potatoes, which were much injured by the rot. It was now plowed once as well as the stumpy incumbered ground would admit, and planted im-

mediately after it was plowed, 24th May, with Dutton corn in hills three feet each way. Some practical farmers predicted that if the season was wet, "the crop would be drowned;"—if dry, "the muck would dry up, and the corn wither."

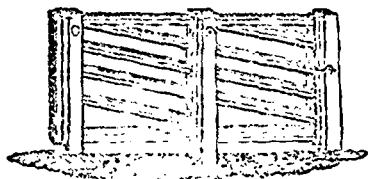
I went over the field early one morning after the second hoeing, and the ears had commenced forming, in the height of the great drought of the past summer. Instead of finding the soil dry and thirsty, the whole loose peaty mass was redolent of moisture. It appeared to me that during the past very warm night, the hydrogen of the decomposed surface had united with the oxygen of the air, thus forming water, by a sort of capillary attraction, not less than by chemical affinity. Had the surface soil been less porous the union of the two gases could not have taken place, at least to the same extent. Had not the peaty surface been in a fine state of decomposition, the like result would not have been produced, the corn would have been slender, the leaves curled, the farmers' prediction fulfilled. Had it been a wet season the ditches would, by taking off the surplus water have prevented the "drowning" of the corn; but the decomposition of the peaty mass would have been so much retarded, by the absence of solar heat, that the farmers' prediction would have been in effect fulfilled; less however from the effect of the incumbent water than from the lack of solar heat. The surface soil of this swamp is nearly four feet deep, resting upon a compact silicious clay, of a light grey color; this corn yielded 140 bushels of sound ears to the acre.—*Alb. Cult.*

*To Prevent Cold Feet.*—Wear worsted or lambs' wool stockings, and on going to bed at night, rub your feet and ankles with them until warm.

## BAKER'S PATENT FARM GATE.



**Self-Balancing Gate.**—The above is a cut of a self-balancing farm gate invented by Mr. Anson Baker, of Western, N. Y., and is represented in the sketch as partly open. It has been in use some time in Western and the neighboring towns and is much liked. It runs on rollers inserted in the posts, under the upper slat. It is opened by pushing it to the right and left. It may be made of wood or iron, and costs little more than a panel of fence. When shut it has the appearance of one of the pannels. It is particularly convenient in winter, those using it not being obliged to clear away the snow in order to open and shut it, nor can it be swayed to and fro by the winds.



**Self-Shutting Gate**—This is an admirable gate where small ones are wanted; it also runs on rollers. The slats being placed obliquely, the moment the hand lets go of the gate when opened, it instantly slides back and shuts.

Models of the above gates can be seen at our office, and we are authorised by Mr. Baker to sell the patent right for the same, from \$3 to \$5 per farm, according to its size. Any person slightly acquainted with the use of tools may make these gates.—*Am. Ag.*

## The Art of Painting.

**Compounding Colors.**—White is considered as not only a principal color in painting, but the base or foundation of all light coloured paints—White lead is the principal white in use, though a more delicate white, called *flake white*, is used in ornamental work. Several common colors, known as lead color, slate color, &c., are produced by mixing lamp-black with white lead in

different proportions. A small quantity of Prussian blue, finely ground and added to white lead, constitutes the common sky blue. Minute quantities of blue and yellow added to white, produce the delicate pearl color, so much in vogue for parlours and halls. Straw color is produced by the addition of a little chrome yellow to white; and pea green by the addition of Paris greens. A beautiful light purple, or peach blossom color is produced, by adding to white lead, small quantities of ultramarine blue, and drop lake. It is needless to specify the exact proportions of the ingredients in these compounds; the only rule being to add the coloring ingredients in minute quantities, till the required color is produced. The most common color for floors, is composed of white lead and yellow ochre, in about equal quantities by weight, with the addition of one ounce of red lead to each pound of the mixture. In painting carriages or ships a great variety of compound colors are used, a few of which may be here noticed. The best black is composed of lamp-black and Prussian blue. A dark green consists of a mixture of chrome green and Prussian blue. A brilliant plum color is produced by a mixture of lamp-black and vermilion. Olive color is produced by mixing lamp-black and chrome yellow. A brilliant orange color is produced by mixing chrome yellow and orange lead—(a pigment similar to red lead, but more refined) A stone brown is composed of lamp-black, yellow ochre and Venetian red, equal parts; the addition of white to this compound reduces this color to a drab, or a light stone color. A mixture of lamp-black and Venetian red, constitutes the chocolate color. A bright rose color, which is much used in ornamenting, is composed of white lead and drop lake. As a general rule, the colors should be mixed with oil and ground separately, before being compounded, or mixed together; but should not be diluted any more than is required for grinding, until the color is perfected.—*Scientific American.*

## Correspondence.

Es,

As the insertion of my former communication to you stamps it with your approval, I shall presume to trouble you with another article, detailing a method of raising Turnips that I have practiced for several years with a great measure of success.

We have now arrived at a most important crisis in the annals of Agriculture, and we must either rise superior to the depression and discouragements incident to it, by added industry and increased display of skill in our vocation, or submit to be completely submerged by it. Every thing around us is evidently in a state of rapid transition, and we must progress with the tide of human affairs, now flowing in with unusual strength and rapidity, or be stranded. We cannot conceal from ourselves, however we may lament it, that the Government Agricultural Protection is doomed,—that its very speedy withdrawal is inevitable,—and that it becomes us to look the impending danger boldly in the face, and endeavour to avert its disastrous results.—Now the obvious means of meeting and diverting these discouraging prospects, are those of devising and acting upon feasible and practical plans of improved farming; and in our present juncture, I hold it the duty of every lover of his native or adopted home, to set himself boldly and resolutely to the task of contributing his modicum of knowledge to the proper organ of agriculturists, undeterred by previous inexpertness in writing. Every body that is slightly familiar with the outline of the agricultural history of Scotland, knows full well that a century has witnessed the most astonishing advances in the value and productiveness of that soil, that the first general increase of rents, although it engendered such a panic amongst the cultivators as to have the effect of expatriating a great majority of the Highland tenants, has been susceptible of repeated and very large additions, and that thousands of families are now living in comfort under rents tenfold the amount paid a century ago. These added burdens they are enabled to bear by increased diligence, and the pursuit of an admirable system of farming, that secures to them a return that would have been deemed incredible only forty or fifty years since. Let any intelligent unprejudiced person that has

seen the practice of other countries, ask himself if the modes of farming that prevail here, are not capable of very great improvement in every step or stage of their practice, and if superior systems are not calculated to make the standard of our return approximate to that of the soil of Britain? It cannot be disputed, nor is it too hazardous to assert, that an average of at least one-third more may be raised on a given quantity than is now obtained. Impress upon your subscribers, that although they cannot influence the prices of the great mart for agricultural produce they most depend upon, they certainly have it in their power to increase the amount of their production, on a limited space, and that therefore the antidote to the bane is within their compass.

I am, Sir,

Your obedient servant,

A LONG POINT FARMER.

Talbot District, March 13, 1846.

## Turnip Culture.

The chief feature of the improved English system of agriculture may be said to be the cultivation of Turnips for the rearing and fattening of cattle. The following description contains a minute account of the Northumbrian system by which manual labour is almost dispensed with:—

The land having been prepared by as many ploughings and harrowings as may be thought requisite to pulverize it and destroy the weeds and laid quite flat; an experienced ploughman draws as straight a furrow as possible, and returning lays the next furrow slice upon the first, thus completing a *bout*. The usual width of the furrow being 9 inches, the first ridge and furrow take up 18 inches, the next furrow slice being laid over the first, the whole work takes a width of 27 inches. He then enters again at the distance of 27 inches from the land side of the first made furrow, and completes a second *bout* parallel to the first. When the whole piece or field is thus laid into narrow ridges, the depressions are about 6 inches below the former surface and the ridges as much above. This at once doubles the depth of the cultivated soil in the ridges.—The manure is now brought on the land in small one horse carts, the wheels of which are about 54 inches apart, so that the horse walks in one furrow while the wheels move in the two adjoining. The manure, which is chiefly common farm-yard dung, not too much decomposed, especially if the soil is inclined to clay, is laid in small equidistant heaps in the centre furrow, drawn out of the cart by a dung-drag, and afterwards evenly spread in the middle furrow to the right and left of those. The quantity thus laid on must depend on the supply in the yard, but ought not to be less than 15 or 20 single

horse loads per acre. The ploughman now begins to cover this dung by splitting the ridges in two, laying one-half to the left and the other to the right and reversing the bouts, so that the ridges are now directly over the dung, which is completely buried. A roller is now drawn over the ridges to flatten them at top, in order that they may better receive the seed, which should be drilled in as quickly as possible to take advantage of the moisture of the fresh turned soil. It would be desirable to soak the seed in a strong decoction of tobacco for 12 hours, and dry it previous to sowing with the drill barrow. In light soils another slight roiling is necessary to press in the seed, but ordinarily the roller of the drill-barrow will suffice. It will be obvious that by this method the seed has not only a greater depth of mellow soil to strike in, but the fermentation of the dung, immediately under it, acts as a hot-bed, and soon brings it up; by which means it is generally so rapidly in the rough leaf that it is not likely to suffer from the fly, more especially if the precaution of soaking the seed, with a view to secure that object, has been attended to. As soon as the Turnip has four leaves out of the ground, the rows may be thinned by the hoe and the plants left from 8 to 10 inches apart. The next process is stirring the ground between the rows with a light one horse plough. The plough takes a small shallow furrow to the left of the row within 3 or 4 inches of the young plants, and lays it in the middle of the interval between the ridges. When this has been done on both sides all over the field, there will be small ridges formed between the principal ridges on which the Turnips grow. All weeds are thus buried except between the plants in the rows, where they are taken out by the hoe.—Some time afterwards a narrow cultivator with crooked tines is drawn through the furrow to level the small ridges left from ploughing out and to clear the ground of all remaining weeds.—Before the autumn rains set in, or the Turnips have too wide spreading tops, a plough with a double mould board is drawn along the middle of the intervals, and lays half of the soil on each side against the ridge on which the Turnips grow, to supply fresh mellow earth for the extending fibres to strike into. When the Turnips are off, one bout of the plough levels each of the ridges, heavy harrows level the whole, and it can be ploughed in the ordinary way for a spring crop.

**To cure Hydrophobia.**—Make a strong wash by dissolving two table-spoonsful of the chloruret of lime in half a pint of water, and instantly and repeatedly bathe the part bitten. The poison will in this way be decomposed. It has proved successful when applied within six hours after the animal has been bitten. I wish these facts generally known, as they may be of service to our fellow-citizens at large.

**Kindness.**—How much happiness might we enjoy if we would obey the injunction contained in the golden rule, “to do by others as we would that others should do by us.” Did all practice the precept herein given, there would be no bickering, no injustice, all would be peaceful, virtuous, and upright; no one would defraud his neighbor, every accent would come from the lips pleasantly; not a blow would fall from any uplifted hand upon an erring brother. But how do we proceed? As a friend has too truly said, our motto is, “do by others as others do by us.” Not thus should it be; do not return evil for evil, but overcome evil with good. Ah! happy is he who by gentleness and kindness can overcome the ill will of an opposer; and how much more powerful an argument will forbearance be towards proving us to be on the side of justice, than would an angry spirit, exhibited by a flashing eye, a lowering brow, and bitter words. Our feelings must be right, then we shall act right. If we do a kind deed, when our hearts loathe its performance, the action will not be appreciated as a kindness; no, it cannot be, but when every movement, every word proclaim the happiness, which we feel in being enabled to do the act. Then indeed shall we bestow a blessing, which shall prove to us, that “it is more blessed to give than to receive.”

Did thy heart never leap for very joy, when thou hast seen the happiness a trifling gift has conferred on a fellow mortal? Did thou never witness the cheering influence of one warm, affectionate word on an oppressed heart? Ah! like sunlight to a benighted traveller, does a genial kindly smile fall upon a weary, careworn brother. Shall a gift, so easily bestowed be withheld? Let us rather one and all give our mite towards augmenting the happiness of those who with us are sojourners in this earth, which has been termed a “vale of tears,” from sorrows and trials, that men are so often called to encounter.

C. G.

Essex, Mass.

**To Cure a Cough or Cold.**—The editor of the Baltimore Farmer and Gardener says that the best remedy he ever tried in his family for a cough or cold is a decoction of the leaves of the pine tree, sweetened with loaf-sugar, to be freely drank warm when going to bed at night, and cold during the day.

But few men die from old age, but are killed by indolence or too much labor—by starvation or too much food—or by the skill of the physician.

## Remarks on the Culture of the Pear.

BY P. BARRY.

In our last number we presented a few general remarks on the culture of the Pear, by way of stimulating farmers and fruit-growers to bestow that degree of attention on the subject which its importance justly claims from them.

We now offer a few practical suggestions that may be found serviceable to some who may lack both experience and suitable books of reference on these subjects. The Pear is a noble fruit.—We deem its culture of great importance to every landholder in this country; and we shall therefore exercise diligently, our humble efforts, in commending it to general attention, and in diffusing the most essential information connected with it.

*Soil.*—The culture of the Pear need not be confined to any one, or even two particular kinds of soil. We have seen it grow and flourish on a great variety of soils. Cold, wet, as well as dry, sandy locations, are two extremes that should always be avoided. Where a choice of soils is attainable, a deep loam, with a dry subsoil, is, as a general thing to be preferred. All sorts of Pears will not flourish equally well on the same soil. The habits of the tree and the character of the fruit, of many kinds, require peculiar locations and qualities of soil to perfect them—some requiring a colder, others a warmer, some deeper, others lighter soil. The experience of pear-growers in this country is as yet too limited to make such discriminations to any extent worthy of explicit confidence.

There may be cases, but they are very rare and only when persons possess but a small garden or limited plot of ground, where none but moist cold soil can be had. The remedy here is to plant the tree nearly or quite on the surface of the ground, and raise the earth in the form of a hillock around it. This method is frequently resorted to where the subsoil is bad or unsuitable.

*Choice of Trees and Culture.*—Trees intended for standards, or orchard culture, should be propagated on seedling Pear stocks, and should not, to succeed well, be more than two years old from the inoculation, and about five to seven feet high.

The roots of the Pear, as is well known, are but sparingly furnished with fibres, except they have been frequently transplanted. Hence the necessity of transplanting them while young.

Pear trees of large size may be successfully moved if proper care has been previously taken to produce an abundance of fibrous roots—by pruning or shortening the large feeders or woody roots—by a method we shall presently allude to.

Thus transplanting large trees, however, is only necessary in this country where a tree happens to be in the way, or in an unsuitable place, or under some peculiar circumstances. Standard trees in orchard culture may be planted twenty-five to thirty feet apart.

The Pear is one of the most durable fruit

trees we cultivate. A Pear orchard will live and produce abundantly, with little care, through three or four generations of men. The most remarkable Pear tree we have heard of, on this continent, not for its age however, is said to be in Vincennes, Illinois. We remember seeing an account of it communicated through "*Hovey's Magazine*," a few years ago, and it is mentioned in "*Downing's Fruit and Fruit Trees*." It is said to be about 40 years old. In 1834 it yielded 184 bushels of Pears, and in 1840 it yielded 140 bushels.

The old *Stuveysant Pear*, now standing in the upper part of the City of New York, is said to be upwards of 200 years old. So when a man has planted a Pear tree he has made a permanent improvement—one that will not only endure while he lives, but ages after him.

Such a Pear tree as the one just alluded to at Vincennes, would be quite a respectable legacy in this part of the country, equal to an annuity of at least \$200 per annum.

*Root Pruning* is a comparatively new, but entirely successful method of arresting the luxuriant growth of fruit trees, and inducing fruitfulness. It is particularly applicable to the Pear, many varieties of which, if left to their natural course, would not bear for a great number of years. Mr. Rivers, a distinguished English Nurseryman, has practiced this operation extensively and with perfect success. In the fall of the year, November, he digs a trench around the trees, a foot and a half deep,—(the distance from the tree should be proportioned to its size,)—and cuts off the ends of the large roots with a sharp spade. This he practices annually, supplying manure abundantly at the ends of the roots. This he says facilitates the thinning and gathering of the fruit, makes the gardener independent of the natural soil, and renders trees of fifteen or twenty years growth as easily removed as a piece of furniture. In the March number of the 6th volume of this paper we spoke of this operation, and gave a figure of a root pruned Pear tree, as grown by Mr. Rivers in the pyramidal form. We recommend the matter to persons who have unproductive fruit trees, but would suggest great caution—better to err in pruning too little at first than too much.

*Grafting or Budding on the Quince* is a process resorted to for the purpose of dwarfing the growth and causing early fruitfulness. Its advantages are bringing it into popular favor in this country. Many of the finest gardens in America, in the vicinity of Boston, are well stocked with trees of this kind. It is practiced extensively in France and Belgium, where immense quantities of trees are thus grown. It requires, however, considerable experience to propagate in this way successfully. As many kinds, such particularly as are naturally hard and gritty, will not do well on the Quince, while others, for instance the "*Duchess d'Angouleme*," and many others of similar character are much improved by it. Trees grown in this way are peculiarly adapted for small gardens, they may be planted eight feet apart, thus enabling the proprietor of limited grounds to enjoy a great variety of sorts. Besides the fruit is easily gathered and is not expo-

and to the severity of high winds, so frequently destructive to crops of large fruit particularly. But the great object is their early and increased fertility. The author of the "*New England Fruit Book*" says:—"In the spring of 1840, we inserted a graft of the 'Cabot' (Pear) into a dwarf stock, which was but one inch through at the butt, and in the fall of 1841 it bore from twelve to fifteen Pears." During the past season we have had a large number of trees bear abundantly only three years from the bud.

In propagating on the Quince, budding is much preferable to grafting. Stocks should be chosen as thick as a man's finger, and the bud should be inserted as low as possible, low or lower than the surface of the ground.

In transplanting the trees to the place where they are intended to bear, they should be set so that the point of union between the Pear and Quince should be at least an inch below the surface. The soil for Pears on Quince stocks should be deep and somewhat moist. The most advantageous, convenient and beautiful farm to grow these trees in, is the conical, or as the French term it, "*quenouille*." It is produced by allowing the trees to branch from the bottom and grow up in the form of a cone or pyramid. Where they are not naturally disposed to throw out side branches, they should be cut back in order to effect that object. The regular form of the tree must be preserved by thinning out superfluous branches and cutting back those of irregular growth.

Another consideration of some consequence in connection with this mode, is, the trees are easily transplanted. The Quince, unlike the Pear, forms large masses of fibrous roots. We have removed trees of this kind, the past season, when in full bloom, that produced a fine crop of matured fruit. This could hardly be done with any other tree, and to some would appear almost incredible. One objection is frequently urged against these trees, which is, that they are short lived. They will not of course endure as long as the Pear would on its natural stock, but if placed on suitable soil, and carefully attended to, they will endure at least one life time. But this objection is of little account when we consider how easily they are replaced. We have before us a letter from one of the most distinguished Amateur Horticulturists of America, who says, in speaking of the Pear,—"There are great advantages to be derived by placing the Pear on the quince, and when well managed, they attain a good old age.—I have trees of Glout Morceau, that bear me a barrel of fruit each, and promise many years to come. This variety succeeded remarkably well on the quince."

Those who desire more comprehensive and explicit information respecting culture, and the names and qualities of varieties, must purchase a standard work on the subject. The descriptive catalogues of many nurseries are to be had gratis, and will afford considerable aid in making selections.—*Gen. Far.*

**Pear Trees.**—The main branches of pear trees grow more or less in a horizontal direction, and send forth many young whip-like branches, which

latter show a great tendency to *thrash* each other; it will therefore appear advisable to remove at once all that seem most inclined to conduct themselves in such a manner, which will generally be found to be those growing most upright. The outline of the pear tree is much more conical than that of the apple, but still quite as pleasing to the eye. Through neglect, however, they sometimes take ungainly shapes, which prompts the remark that pruning to improve the form is always admissible, and, in fact, good pruning always produces such result. The pear fruit being borne upon spurs, it should be a part of the pruning to remove a portion of the old ones, each and every season, as a kind suggestion to the good tree that new bearing spurs are always most desirable.

The pruning is to be conducted upon the principles pointed out for the *spurred* family, and as more particularly detailed under the head of "Apple Trees," to which full reference is made.

#### Advantages of White Paint over Black.

Black being a colour that absorbs nearly all the sun's rays, any object painted black becomes much hotter when it is exposed to the sun than if it had been painted white, or some light color. A decisive instance of the truth of this fact occurred in the case of H. M. ship *Excellent*, of 98 guns. This ship was moored east and west, by bow and stern moorings, consequently the starboard side was always exposed to the sun, both in summer and winter, in this situation her sides were painted in the usual manner of a ship of war, black and white, the greater part being black; this latter portion, on the starboard side, it was found impossible to keep tight, for as soon as one leak was stopped another broke out. At length it was suggested that painting her a lighter color might be of service, this was done, the leaks ceased, and they did not afterwards re-appear. This occurred in an eastern port, but the injurious effect of the black paint must be much greater in tropical climes, where the rays of the sun are much more powerful.—*Bost. Cult.*

**To Silver the Inside of Glass Globes or Bottles.**—Dissolve one pound of Bismuth in 4 pounds of Quicksilver. This being prepared, thoroughly clean the globe or bottle inside, and make it moderately warm, then heat amalgam, until it assumes a perfectly liquid form, and pour it through a paper funnel into the article to be silvered, carefully turning it in every direction necessary to cover the entire inner surface as it becomes crystallized by cooling. The superfluous amalgam is afterwards turned out.—*Far. & Mec.*

## Prepared Manures and their effects on Crops

The substance of the following remarks was lately delivered at the meeting of the American Agricultural Association in New York, by R. L. Peck. We copy from the American Agriculturist:—

Mr. Peck rose and said: By analysis it is known that all cereal grains cruciferous and leguminous plants, trees, and shrubs, require in the soil the same chemical substances, but in different quantities. There are eleven, viz: potash, soda, lime, magnesia, alumina, oxide of iron, oxide of manganese, silica sulphuric acid, phosphoric acid, and chlorine. If one be absent, the soil will not grow any cultivated plant. Hence analysis of soils is necessary for a proper and economical application of manure. In a barren soil one necessary ingredient alone might be absent. If, then, ten ingredients be added and the eleventh kept back, the soil is still barren. Hence, the reason why so much of New York will not grow wheat, and yet will grow other grain: the requisite quantity of some one or more chemical ingredients necessary for wheat is absent, but in sufficient quantity for rye, &c. When, at last, cultivated plants cease to grow, the five-finger vine appears. It requires still less of them. In such a stage it is not rare that an expense of three dollars per acre, will enable the soil to produce 30 bushels of wheat. I produced 72½ bushels of wheat on a piece of worn out ground, by fifty cents worth of two ingredients. Like produces like; and hence if straw of wheat be given to the ground it will produce wheat; indeed, what may be grown on a pane of glass, if the seed be covered with wheat straw in a decomposed state. Hence the farmer may sell the grain but not the straw. The farmer who sells straw becomes poor; he who buys it grows rich.

I apply straw to the cattle-yard; it absorbs the liquid excrement, and rots. What is long or partly unrotted I apply to hoed crops; what is fine I mix with the eleven requisites and apply as a top-dressing. It may be advisable to apply the straw to the ground and plough it in when unrotted. To grow grains, give the soil straw of its kind; for potatoes, their vines; grapes, their vines; to apples, their branches; and so of all. The droppings of cattle are the best manure to grow grasses, as they feed on grass; those of horses fed on grain for the growth of cereals. Onions are grown year after year, by only returning the tops to the ground. In Virginia, had the refuse of the tobacco plant been returned to the soil, she would not now be barren. The bad farmer is injured by the vicinity of well manured land, as manure has an affinity for oxygen, hydrogen, ammonia, &c., floating in the air, and attracts them to the provident farmer's land.

Formerly, I applied composts of various things, and had wonderful results; I dared not omit any one, as I knew not which had produced the results. Now, science by analysis shows what is necessary. By these composts, I grew a squash to weigh 201 lbs., the heaviest on record, and a

cabbage to weigh 44 lbs. By it I grew wheat to weigh 64 lbs., rye 60 lbs., oats 4-½ lbs. When Sprengel made known his analysis, showing that eleven substances are necessary to all good soils, I found that my compost by chance had them all, and twenty other enriching ingredients.

Previous to 1840, my orchard bore only every other year. Since then I make them bear every year: and this year, a bad one for fruit, found my manured trees full, and those not manured barren. The drought of this year was fatal to fruit, yet my manured trees had abundant moisture and were fruitful. I prefer the manure of decayed vegetable matter to the excrement of cattle, as the material that makes and supports the annual has been extracted, and the excrement is not so rich on that account. If the vegetable matter be rotted and its ammonia fixed by charcoal dust, all the chemical substances are present. Thus rotted vegetable matter is more beneficial than the dung of cattle, quantity and quality alike.

A most valuable manure is the liquid remaining after the boiling of bones. It is very offensive unless disinfected. When hot it is not offensive, but becomes so when cold. It is a jelly when cold. By the application of charcoal dust to the hot liquid, the jelly when cold is not offensive. In this state it may be made into compost with other substances. In that condition it is a most valuable manure. At present large amounts of the liquid are thrown into the rivers. I prevailed upon a grinder of bones to save his liquid by charcoal, and he now sells what formerly he had carried away. I have used it with great advantage, both on arable and meadow land.

Charcoal is one of the most valuable manures. It is the most powerful absorbent known. It takes from the atmosphere oxygen, hydrogen, nitrogen, ammonia, &c., and holds them while the weather is dry. During rain it absorbs 80 per cent. of water, and releases the gases to descend to the earth to fertilize it. When the weather becomes dry it parts with the water, and absorbs from the air the gases again. This it continues almost perpetually, and it is nearly indestructible. When applied to the earth, the trees, plants, and grasses are found to have it adhering to their roots ready to impart gases and moisture as wanted. Trees packed in it have remained green for eighty days, while others without it have died in like circumstances.—Hams and salt meats are preserved perfectly when packed in it. I preserved apples in perfect condition for one year in it. If spread over compost heaps, barn-yards, stable floors, in privies, it absorbs the ammonia, prevents offensive smells, fixes the volatile gases, and thus makes a valuable compost.

Ashes applied to sandy soils are valuable; and on some soils leached are as good as unleached. I have known land too poor to grow eight bushels of corn made to produce forty-five bushels by ashes alone; and they are more valuable on a

sandy soil than any other manure except marl clay. They enable the sandy soil to retain its moisture,—a great point. They are used to great advantage on Long Island and in New Jersey. They stimulate growth as does plaster. Sown broad-cast on grass, the effect is perceptible at a great distance. The yield the first year on sandy soils in grass, will pay the expense of applying forty bushels to the acre. They give to the soil succinate of potash, which is needed to form stems.

Ashes have two actions on soils, viz: chemically by alkali they neutralize acids; and mechanically by rendering sandy soils more tenacious. Muck is made valuable by them, when mixed in compost; the acid of the muck is destroyed by the alkali, and fermentation follows.

Lime has been used by me to great advantage. I prefer oyster shell lime, as it contains no magnesia, which most stone lime does. I think oyster shell lime has a tendency to lessen in growth the stem and leaves, and increase the fruit and seeds. I put on barren or worn out land 300 bushels of oyster shell lime, and it grew wheat to a weight of 64 lbs. per bushel, with the wheat I sowed one bushel of clover seed and half a bushel of timothy seed per acre, and the next year cut two and a half tons, and the second year three tons of hay per acre. I have found it of great advantage in potatoe culture; the potatoes do not rot in the ground, while neighbouring unlimed ones *all* do. They are mealy and fine, and do not rot after gathering, and have been free of rot in dry, wet, and average seasons. I think it destroys the fungus or insect, if either be the cause of rot.

Bone dust I have used and find it most valuable, and advise its use, especially on soils long cultivated, destitute of phosphate of lime; it is the most efficacious manure that can be used on an exhausted soil, but will do better on dry calcareous soil than on such as contain alumina.—It should be mixed with earth to ferment before spreading. There should be used from 12 to 20 bushels to the acre. It seems best on turnips. In compost it is valuable, as it yields phosphates largely. It is said that in England, where on lands it had been applied twenty years before, its effect could be seen to a yard. I trust the exportation of bones from our country will soon cease.

I have used guano successfully and unsuccessfully. Mixed with earth and applied to plants in close contact, it was injurious; applied in weak solution to grass land and green-house plants, its effect was wonderful. My experience shows that *its method* of use will determine *its value*. In composts I have found it very effective.

Night soil is one of the most valuable manures. In this country, as well as in England, great prejudice prevails against its use in agriculture or gardening. For ages it has been used in Asia, and particularly in China. In France, in Belgium, Bohemia, Saxony, all the German

confederacy, and Sweden, its destruction or waste is prohibited by law. In England and America it is thrown into the rivers to befoul them, and the fish which devour it are eaten instead of vegetables grown by it. As manure, six loads of it have been found to produce 650 bushels per acre of potatoes, while, on the same ground, 120 loads of horse manure yielded only 480 bushels.

In conclusion, I have to remark that the main stay of the farmer is his barn-yard manure. Yet this varies in quality, according to the material of which it is made, and the manner of making. Thus the droppings of cattle fed on straw and turnips, are less valuable than those of cattle fed on hay and oil cake, and it is economy to feed hay and oil cake rather than straw and turnips. So in manuring; that which is leached by rains and volatilized by the sun, is less valuable than the unleached and ununsunned. But this is too extensive a subject to take up, and is so well understood by good farmers, that it is unnecessary to say more on the subject.

*Farriery.*—Mr. Editor,—A farmer of this town has given me the following receipt for curing wounds and running sores in horses—Take corrosive sublimate and red precipitate in equal proportions, powdered, and put them into a vial.—Wind a little tow or a rag on the end of a stick, wet it and apply it to the wound, touching all parts with the mixture. If a running sore, it should be probed with the wad. He has never had occasion to make more than one application, and has never known it fail. He had a horse which had a swelling on the shoulder, supposed to have been caused by the harness while working on a long sweep horse-power. He had it opened and tried several remedies without success. He tried the above, and in three days the whole matter sloughed out, and it healed in a short time.

I have heard of a new cause of heaves in horses. One subject that died was opened, and on each side of the wind-pipe, where it joins the head, were formed two bags as large as walnuts, filled with pus. Where these lay near the throttle valve, the pipe appeared of an unnatural colour. Every other part appeared healthy and sound. Afterwards another horse, which had become worthless on account of the heaves, was killed and opened, and found to be affected in the same way. Afterwards an experiment was tried on another horse, in which the bunches were found. Taking hold of the bunch with a pair of blacksmith's tongs, an iron was held at the under side, and a blow given with a hammer on the upper side. Since that the horse appears to be doing well. But I should think it would be better to open the skin and take out this bag.—Farriers may know this disease by another name.—*Alb. Cult.* B. W. R.

*To Prevent the Bite of Mosquitoes.*—Apply a thick lather of soap to the skin of the face and hands.



## Tillage.

"Tillage is the breaking and dividing the ground by spade, plough, hoe, or other instrument, which divide by a sort of attrition, (or contusion,) as dung does by fermentation."—Tull.

The inquiring mind asks. Why do we break up the ground and divide it? What is our real object in tillage? In the estimation of Tull, it was to extend the "pasture of plants," yet it is not surprising that such answer should convey but little to the mind's comprehension, for, as our author remarks, this pasture of plants "being out of the observation of the senses, is only to be known by disquisitions of reason; and has, for aught I can find, passed undiscovered by the writers of husbandry, [which] seems to be one principle cause that agriculture, the most necessary of all arts, has been treated of by authors more superficially than any other art whatever."

Jethro Tull was a plain, practical man, and withal (due allowance being made) a sound reasoner. To him we are indebted for the grand foundation of our present tillage-husbandry, charity, therefore, prompts us to deal gently with his errors. In the present day, we are informed that plants feed upon the atmosphere, and that they abstract nutriment from the air by means of their leaves. On the other hand, Tull's "pasture of plants" was "the inner [or internal] superficies of the earth;" or, more properly, the space, or atmosphere, present in and bounded by the superficies of the individual parts of the soil. By tillage, we loosen up the soil, and admit the atmospheric air. Plants feed upon the atmosphere, but derive their nourishment from it by means of their roots; consequently, the more open and porous the soil is kept by tillage, the more permeable it is to the atmosphere; or, as Tull would have it, the "pasture of plants" is hereby increased. In his estimation, the food of plants was attenuated earth, and he sought, by tillage, to divide, pulverize, or attenuate the inorganic matter of the soil, thinking thereby to gain food for plants; but in this he failed. We have found profit in this tillage, and may find still farther benefit in his errors. Organic mould, the remains of former plants, and animals, was in reality the attenuated earth that Jethro Tull sought to re-produce by tillage—his husbandry apparently succeeded while the mould of his soil lasted; by despising the aid of manures, he has left the following practical lessons for our benefit.

Ordinary cultivated plants cannot thrive upon the atmosphere alone—neither can the inorganic earth be converted into organic mould. The last named materials must necessarily be blended together, to form good arable soil. In such soil, then, we admit, by tillage, a free access of atmospheric air, which, during the presence of heat and moisture, acts upon the organic mould thereof, and thus gradually converts it into water and carbonic acid, the principle food and drink of plants. By tillage, and after-cultivation, soils are worn out, as was fully realized in Tull's Husbandry, yet by manuring, we "replenish the land."

## Directions for Ploughing Matches.

The following directions for ploughing matches, has been kindly handed us by Mr. J. Dunbar, of the township of Pickering. Those directions may appear too minute for some; but, nevertheless they will be found most valuable for those who are determined to excel in this important branch of farm labor. They originally appeared in the *Life Herald*:

Ploughmen who intend going to ploughing matches will do well to attend to the following particulars—

To gain prior knowledge of what kind of ground it is where the competition is to take place

To give the plough the necessary set, and prove it previous to the day of competition.

To examine the lot, and see if the ridges are equal in breadth; if not, observe what plan will be best to work off the difference until equal.

In ploughing what is termed clearing out two ridges, never back your own furrow, but every man back his neighbor's.

When the ridges in this kind of ploughing are high raised in crown, the plough on the rising side must be hamoured a little to the right until you come to the crown; for two or three furrows there the plough will naturally become vertical, or, in other words, the coulter will be cutting perpendicular to the horizon; passing this, the plough will then be a little to the left hand, which is called cheeking. The cause of these different positions is to suit the curvature of the ridge.

When your unfinished ground approaches to seven or eight furrows, the breadth must then be carefully measured at both ends; also measure the breadth of the furrow you have been cutting, and calculate what number of furrows you must make out of your unfinished ground.

Observe this, if the measure shows a little more than seven furrows, you must make eight out of it; and if a little more than six, you must make seven out of it, and if more than five, you must make six out of it; and the two last rounds may be a little narrower and ebb, and extremely well held, making the furrow appear clean and well closed.

The second last furrow on each side should just be half an inch narrower than the one before it, and the last should be just half an inch narrower than this, and particular care must be taken that these last two furrows are not raised above the natural curve or level of the rest of your ridge.

To prepare for a proper finish, the last furrow but one should be held very ebb, for two special reasons—1st. In taking up the last furrow the land-side of the plough having no support, and by the left hand furrow being only, say, one inch ebb, the plough, in taking up the last furrow, ranges this inch below its wake, and gives a balance to the plough to go straight forward. 2d. In taking out the ground furrow, which is called the finish, it should always be laid to the last furrow, and the left furrow being ebb cut, as before mentioned, leaves more firm land for the ground furrow, one horse only ought to be used, to prevent the land from being trampled and holed with the horses' feet.

Lastly, in making the finish, the plough should just cut an inch from the under side of left hand furrow, and when the finish is well done, this plane of an inch, as well as the wake of the finish, must appear clean and clear.

The next kind of ploughing necessary to be explained is what is called crown and furrow. In this kind of ploughing more art is required than in the kind last described. In commencing you begin the same way as in the last example, but before you feer your premium ridge, prove the trim of your plough by four or five rounds, on the half ridges which you turn to your neighbors' half ridges; by this time you will have fixed the trim of your plough; and your horses, if a little restive at first, will now have become steady; if they are not, you must go a round or two more until they become steady in their movement; then the plough and horses being all right, the ploughman must screw up his courage, and feer his premium ridge, which few do without great agitation,

The rule to be observed in feering is this:—The first furrow must be made very light, and its

backing equally so, being feered, the ploughman must then examine to what height the next two furrows must be made to regulate the level ploughing of the ridge, this requires very close observation. It must be understood here, that the two first furrows must be completely buried, and the next round, which is the trying one, must be clapped together that the two grassy sides of the furrow just meet, and that the distance from shoulder to shoulder shall be the same as the breadth of furrow which has been fixed upon for the ploughing of the ridge. This precaution is also necessary to be observed in the mutual feering betwixt the competitors. But even when this has been properly done, the danger is not over; the ploughman will have now to take care that he does not flank his ridges on each side of the feering; to guard against which, hold a little deeper for three or four rounds after feering, and the danger is over, and when the unfinished ground comes within the same limits as before mentioned, the same precautions are to be taken, and the finish made in the same way as before directed.

Every ploughman ought to provide himself with a furrow gauge, and all he has got to do is to fill it, and he will find it an excellent check for keeping him to the exact size and shape of furrow.

Lastly, when a ploughman intends going to a ploughing match, he must be quite confident in himself, have the plough in trim as directed, have resolute courage, and keep it up to the last finish, for if the spirit fall, the nerve will fall with it, and then all hope is lost.

Measures.

J. M. Garnett, Esq., of Virginia, gave an article in the *Farmer's Register*, on measures. It is often convenient to have square boxes to hold a given number of bushels, as designated in the following

TABLE.

Length. Inches.	Width. Inches.	Depth. Inches.	Contents. Cub. In.	Contents. By Name.
24	16	27	10.752	One bbl.
21	16	14	5.376	Half "
16.8	16	8	2.1504	One bush.
12	11.2	8	1.0752	Half "
8.4	8	8	5.376	One peck.
8	8	4.2	2.688	Half "
7	4	4.8	1.344	Half gal.
4	4	4.2	67.2	One quart.

## The Fruit Cultivator:

*Adapted to the climate of the Northern States, containing directions for raising Young Trees in the Nursery, and for the management of the Orchard and Fruit Garden.* By JOHN J THOMAS.

Mr. Thomas is extensively known as an intelligent and successful cultivator of fruits. His extensive practical knowledge and habitual accuracy, fully entitle his observations to the respect and confidence with which they are generally received. In the work before us, his objects have been to furnish useful directions to those who may be little acquainted with the management of fruit trees, to promote the culture of the best varieties, and by encouraging the adoption of a proper system, to increase the production of fruits, and render more certain the profits of their cultivation. The author has not intended in this case to furnish a large work—it consists of 220 pages 18mo, divided into two general divisions; the first containing twelve chapters under the head of "GENERAL DIRECTIONS AND PRACTICES,"—and the second, twelve chapters, "ON THE DIFFERENT KINDS OF FRUITS." To these is added a "DESCRIPTIVE LIST OF FRUITS," embracing apples, pears, cherries, plums, peaches, nectarnes, and apricots. An attentive examination of the book only is necessary to satisfy those acquainted with the subject, that it is well calculated to promote the objects for which it was designed. As applicable to the season, we present the following extracts on

## GRAFTING.

"The great number of modes described in books, have tended rather to bewilder than to enlighten beginners; the following remarks, therefore, are more for the purpose of laying down reasons on which success depends, than for pointing out the peculiar modes of operation, which may be varied according to convenience, provided attention is given to the essential particulars.

"Propagation by grafting differs mainly and essentially from increasing by cuttings, by inserting the cutting into the growing stock of another tree, instead of directly into the soil. The stock thus supplies the sap, as the soil does in the case of a cutting; and the graft, instead of making roots of its own, extends its forming wood downwards, through the inner bark, into the stock itself. Hence there are two chief requisites for success: the first, that the graft be so set in the

stock, that the sap may flow upward without interruption, and the second, that the forming wood may flow downward uninterruptedly through the inner bark.

"To effect these two requisites, it is needful, first, that the operation be performed with a sharp knife, that the vessels and pores may be cut smoothly and evenly, and the two parts be brought into immediate and even contact. Secondly, that the operation be so contrived that a permanent and considerable pressure be applied to keep all parts of these cut faces closely together. Thirdly, that the line of division between the inner bark and the wood, should coincide or exactly correspond in each; for if the inner bark of the one sets wholly on the wood of the other, the upward current through the wood and back through the bark, is broken, and the graft cannot flourish nor grow. And, fourthly, that the wounded parts made by the operation, be effectually excluded from the external air, chiefly to retain a due quantity of moisture in the graft, but also to exclude the wet, until, by the growth of the graft, the union is effected.

"1. The first requisite is best attained by keeping a keen, flat-bladed knife to cut the faces, and another knife for other purposes.

"2. The second requires that the jaws of the stock in cleft-grafting, press with some force, but not too much, against the wedge-shaped sides of the graft. A stock one-third of an inch in diameter will sometimes do this sufficiently; three-quarters of an inch is a more convenient size. In whip-grafting, the tongue and slit should be firmly crowded or bound together.

"3 The third requisite is attained by close examination.

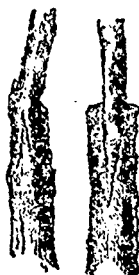
"4. The fourth is accomplished by plasters of grafting-wax, and by the application of grafting-clay. Grafting wax may be made by melting together one pound of beeswax, two of tallow, and four of rosin.\* It is spread, when melted or softened, on muslin or thin unsized paper, with a brush or spatula. It is sometimes applied without plasters, in which case it should be worked with wet hands, until it may be drawn out into ribbons of wax, which are wrapped round the part. In all cases it should be applied closely, so as to allow if possible no interstices, and covering cut or split surface otherwise exposed to the air.

\* More wax and less rosin is less adhesive to the hands, but more expensive.

In cool weather, a lantern, chafing-dish, or hot brick, is necessary to soften the plasters before applying them.

"The annexed figures represent the two most common modes usually adopted for fruit-trees; fig 37, representing whip-grafting, which if well performed with the parts closely pressed together, needs no ligature to keep the graft in its place, and fig. 38, the common mode, or cleft-grafting, which except for small stocks, is generally found best and most certain of success.

Fig. 37. Fig. 38.



"It is hardly necessary here to mention that propagation by grafting and by cuttings is to be performed early in spring before the buds swell; and that the grafts or cuttings may be cut late in autumn or any time during winter, provided the natural moisture is preserved until they are used. A convenient mode of thus preserving them, is to wrap or imbed them in damp, not wet moss; or bury them in a box, beneath the surface of a dry spot of earth, the box to be open downwards, and the grafts to be kept from contact with the earth by sticks across the inside of the box."

\* Grafts, if kept in a cold place, in a dormant state, till the leaves of the stock are expanded, may generally be inserted with success, if of the apple and pear. Cuttings are used at various seasons of the year, in hot-house cultura.

**Wash for Fruit Trees.**—A new subscriber in Northampton wishes to know what is the best wash for young fruit trees, and the best time for putting it on.

Ley that will bear an egg will kill all the vermin and the moss that gathers on young trees. Apply it in May or June, when the vermin are to be seen. It will do more service, than in cold weather.

One pound of potash, dissolved in one gallon of

water, will form a ley that will be strong enough for the vermin and not injurious to the bark.—*Ploughman.*

**Self-acting Pump.**—In our last volume, pages 245 and 246, we published a communication in reference to this pump, from the inventor, Mr. Erastus W. Ellsworth. Since then we have received frequent inquiries in regard to the operation, &c. The following interesting extract from a letter received sometime since from Mr. Erastus Ellsworth, the father of the inventor, would have appeared before, but it was unfortunately mislaid. It will be noticed that the invention has proved itself all it has heretofore been represented to be. The well known character of the Messrs. Ellsworth justifies the most implicit reliance on their statement:

"Mr. Howard will no doubt be gratified to learn, that the Self-acting Pump, which he saw in operation in my door yard last summer, has not failed, but for a day when it was interrupted by accident, to perform its task to raise all the water which the well furnishes. It now supplies water for twenty head of cattle daily.

"To test its power to elevate water above its station, a lead pipe was attached to the discharge pipe, and carried to the top of the barn near by, and raised to the height of forty-nine feet, above the water in the well. At that height it played a jet of about four feet higher, evincing a power much greater than had been anticipated. Indeed, the invention has more than met the most sanguine expectations regarding it."—*Alb. Cult.*

**Pride vs. Truth.**—There is no single obstacle which stands in the way of more people in the search of truth than pride. They have once declared themselves of a particular opinion, and they cannot bring themselves to think they could possibly be in the wrong; consequently they cannot persuade themselves of the necessity of re-examining the foundation of their opinion. To acknowledge and give up their error, would be a still sorer trial. But the truth is, there is more greatness of mind in candidly giving up a mistake, than would have appeared, in escaping it at first, if not a very shameful one. The surest way of avoiding error is, careful examination. The best way of leaving room for a change of opinion which should always be provided for, is to be modest in delivering one's sentiments. A man may, without confusion, give up an opinion which he declared without arrogance.

**Salberg Bug Wash.**—Bichloride of mercury 2 parts, spirits of turpentine, 6 parts; muriatic acid 1 part; water, 100 parts. Mix and thoroughly wash cracks and joints of the piece of furniture with this liquor.

## Pruning.—Apple Trees.

After being neglected for a number of years, it is truly a tedious task to prune an orchard of these trees, with that care and attention necessary to improve their condition, yet, the work is well worthy being engaged in, for old trees are still young if well taken care of. A sound bark and half inch thickness of young white wood (alburnum) underneath it being all-sufficient, and though the heart of the tree be hollow, yet the fruit may prove plump and fair. Prune one tree at a time, and that thoroughly. Let all the others stand in their present condition until their turn come to be as thoroughly dealt with. Commence by taking out all young ingrowing branches, and thus through the centre of the tree, make your way to the top. Prune here a riding twig, and there an ingrowing twig until you leave the top like a spread umbrella, composed of twigs and branches, none of which interlace each other. Choose next, four or five main branches, radiating from and encircling the trunk, at about two or three feet distance from, and below the now neatly finished top. Cut away all intermediate branches. Remember that the apple fruit is borne upon spurs, consequently by removing a branch is meant taking it entirely out. From the branches you have selected remove all twigs or lesser branches growing upwards, and all growing downward; reserve those only that spread out flatwise, or horizontally. Do not let even these ride, chafe, or interlace each other, but rather cut back their little branch-like extremities to the next free twig put forth. If well done, you will have an open space all around the trunk, above which is an arched top, below which is a horizontal spread of branches. Descend two or three feet, and choose another set of main branches, as before. Prune them in like manner, and so proceed, until this portion of the work is completed, when it is to be hoped that you will find yourself at the bottom of the tree again. Around you is a goodly quantity of brush and fire-wood, this time cleverly come by. Above you, in pleasing view, are the branches, and their lesser ramifications, spreading horizontally, and rising, tier above tier, to the light and arched top.

Now, if the tree be old, cut the bark up and down with a knife, or else rub it over with soft soap, to get rid of the moss, and also to enable the bark to split and expand, that new sap wood

may be deposited around the trunk, during the growing season; this will check the tendency to throw out suckers, which latter are good branches, but being in too great number, they come to nothing. Under proper management, they will serve to fill vacancies occasioned by neglect, or previous bad pruning. Large limbs and branches are to be taken out with a saw; twigs with a knife or chisel. Pare all the wounds with a knife to smooth the edges of the bark, that it may heal readily. The after pruning will consist chiefly in cutting out a portion of the old fruiting spurs, that they may be replaced by others.

*Water Proof Glue.*—We give the following different methods of preparing a strong glue or cement, that will withstand heat and moisture, extracted from the *Scientific American*.

1 Melt common glue in the smallest possible quantity of water, and add, by drops, linsced oil that has been rendered dry by having a small quantity of litharge boiled in it: the glue being briskly stirred when the oil is added.

2. Glue will resist water to a considerable extent by being dissolved in skimmed milk.

3. The addition of finely levigated chalk to a solution of common glue in water, strengthens it, and renders it suitable for signs or other work that is exposed to the weather.

4 A glue or cement, that will hold against fire and water, may be made by mixing and boiling together linsced oil and quick lime. This mixture must be reduced to the consistency of soft putty and then spread on tin plates and dried in the shade where it will dry very hard. This may afterwards be melted like common glue, and must be used while hot.

*Horchound Candy.*—1. Take horchound, and boil it until the juice is extracted, then add to it a sufficient quantity of sugar, boil and stir until it grows thick, then pour it out into a paper case, lined with fine sugar, and cut it into squares; dry and put it into finely-powdered sugar.

2. Horchound juice 1 pint; brown sugar, 6 pounds white sugar, 6 pounds. Mix.

*For an Asthma.*—Take juice of hyssop, juice of clecampañe-root, of each one pound; boil these to a syrup, with double their weight in honey or sugar-candy. Take one spoonful of this syrup in two spoonfuls of hyssop-water, and one spoonful of compound briony-water. Take this three times a day.

## New York Agricultural Warehouse.

In another column of this paper will be seen an advertisement of this extensive and justly celebrated establishment. A. B. Allen, Esq., its proprietor, is one of the most instructive, and on the whole, the ablest writer upon agriculture we are acquainted with. So devoted and valuable a friend to agriculture deserves every encouragement at the hands of the farmers of this continent; and we feel much pleasure in recommending his business to the favorable notice of our readers.

In the formation of Agricultural Libraries it is absolutely necessary that a large share of the books should be purchased from our American neighbors; and it will be to the interest of all who require to purchase books upon agriculture, to write to such gentlemen as Mr. Allen, who are acquainted with every American work of this description. Many farmers in Canada require a change of seed; and any new varieties that may be introduced in the United States may no doubt be had by applying to Mr. Allen; we state this because we have ever found him to be a man of strict business habits, and one who will employ every reasonable effort to please those who entrust their business in his hands. We hope the day is not far distant when Canada will be able to support an Agricultural Warehouse, such as the one under notice. Such establishments add greatly to the facility of carrying out agricultural improvements.

*A New Material for Roofing.*—We learn from the *Philadelphia Ledger*, through the communication of a 'Mechanic,' that a new method for roofing houses has been invented by two gentlemen of that State, which is more durable than shingles, slate, or tin, as brilliant as glass, fire-proof and water-proof, red, blue, green, or any other color that may be desired; a non-conductor of electricity, a reflector of heat, cheaper than tin, lighter than slate, being varnished, it is almost indestructible by time or weather, and so easily put on that the largest roof can be covered in a single day, if desired. It requires very little descent; a roof covered with this material may be made as flat as any tin roof without the least danger of leaking. Nothing short of actual violence will injure it. Should it come into general use, our cities will outshine the Kremlin of Moscow. When a house with a slate roof is on fire, the slates fly so that the firemen are in great danger should they come near it, but this article, having passed through the fire in the process of manufacture, is not liable to this objection; its durability is such that it will last as long as the house.

## Non-Smoking Chimneys.

*Mr. Editor:*—Who that has suffered from the annoyance of a smoky chimney, would not rejoice to be told of a way in which the evil may be avoided? Believing, sir, that the principles of chimney-building are plain and simple, and that when once known, it is just as easy to have chimneys that will draw like a stove, as those that smoke, and further believing that I shall be able to give you and your readers an idea of these principles, I am induced to write you this communication.

The essential rules to be observed are believed to be the following.

1. The throat of the chimney should be narrow, say from three to five inches in diameter.
2. The back of the fire-place should be built up perpendicularly, or inclining a little forward, and be nearly in a line with the inner surface of the front side of the chimney above.
3. After being carried up to within a proper distance of the mantle tree to leave a sufficient flue, the back should then retreat at almost a right angle, leaving a space above the flue, from front to rear, some three or four times as wide as the throat.
4. The sides of the chimney above the flue should never be drawn in, but be carried up perpendicularly the aperture being preserved the same throughout.—*Mich. Far.*

*To Gild Copper or Brass, generally called Gold Gilding.*—First steep a fine linen rag in a saturated solution of gold, until all the liquid is imbibed; then dry the rag thus prepared over the fire and afterwards burn it to tinder. The article requiring to be gilded must first be well burnished, then with a soft elastic cork first dipped into a solution of salt and water, and afterwards in the black powder, rubbed briskly and thoroughly, and the gilding is completed.

*To Remove Grease Spots from any Cloth made of Wool.*—Damp the spot well with spirits of turpentine, then take a piece of the same cloth and rub until dry. The first application generally proves effectual.

*Cure for Grubs in Horses.*—Add a pint of strong vinegar to a cubic inch of chalk; when the effervescence ceases, drench the horse with the liquid.

TOWNSHIP OF WHITBY  
AGRICULTURAL SOCIETY'S  
EXHIBITION,

TO BE HELD IN VILLAGE OF OSHAWA

On the 3d Wednesday of Oct. 1846,

On which day the following Prizes will be awarded, viz :

	Best.	2nd.	3rd.
	s.	s.	s.
Aged Ram, - - -	20	15	0
Ram for improving Wool -	20	15	0
Ram Lamb, - - -	15	10	0
Pen of 3 Ewes - - -	20	15	0
Do. do. for improving Wool	20	15	0
Bull Calf - - -	15	10	0
Heifer Calf - - -	15	10	0
Fat Beast, horned kind -	15	10	0
Boar - - -	15	10	5
Breeding Sow - - -	15	10	5
Winter Wheat (2 bushels) -	15	10	5
Pair Woollen Sheets by hand	10	5	0
Do. by machinery - - -	10	5	0
Acre of Turnips, - - -	15	10	5
½ Acre Mangel Wurtzel -	15	10	5
Spring Wheat (2 bushels) -	15	10	5
Oats (2 bushels) - - -	10	5	0
Barley (2 bushels) - - -	10	5	0
Firkin Butter, 56 lbs. -	15	10	5
Cheese, 20 lbs. - - -	15	10	5
Full Cloth, home-made, 20 yds	15	10	0
Do. by machinery, 20 yds, -	15	10	0
Flannel by hand, 20 yds. -	15	10	0
Do. by machinery, do. - - -	15	10	0
Pair Coverlids by hand -	15	10	0
Do. do. by machinery - - -	15	10	0
Clover kept for seed, 3 acres	25	10	0
Hemp, half acre - - -	20	15	0
Flax, half acre - - -	20	15	0
Fanning Mill, - - -	20	15	0
Straw Cutter - - -	15	0	0

JOHN RITSON, Secretary.

May, 1846.

NEW YORK AGRICULTURAL  
WAREHOUSE.

FARMERS, Planters, and Gardeners will find the largest and most complete assortment of Agricultural Implements of all kinds at this establishment, ever offered in the New York Market.—Most of these implements are of new and highly improved patterns, warranted to be made of the best materials, put together in the strongest manner, of a very superior finish, and offered at the lowest cash price.

Among these implements are upwards of fifty different kinds of Ploughs manufactured by Ruggles, Nourse & Mason, of Worcester, Mass., also in New York—for the South as well as for the North, Harrows of different patterns and sizes; Rollers of wood and cast iron on a new principal; Seed sowers for all kinds of seeds, a recent invention; Cultivators, with different kinds of teeth; Horse Powers of wood or of cast iron, very strong and superior;

Grain Thrashers; Fanning Mills; Mills for grinding corn, &c., a new invention; Corn Sheller by hand or horse power, the latter shelling 200 bushels of ears per hour; Vegetable Cutters, will cut a bushel of roots for cattle in two minutes; Hay, Straw, and Corn-stalk Cutters; Scythes, Rakes, Shovels, Spades, Hoes—indeed Field and Garden Tools of all kinds.

Castings for the various kinds of Ploughs manufactured in Worcester and New York.

Seeds for the Farmer and Gardener.—A choice assortment of the various kinds, such as improved Winter and Spring Wheat, Rye, Barley, Oats, Corn, Beans, Peas, Rutabaga, Turnip, Cabbage, Beet, Carrot, Parsnep, Clover and grass seeds, and improved varieties of Potatoes.

Wire-Cloths and Sives.—Different kinds and sizes constantly on hand.

Fertilizers.—Peruvian and African Guano, Bonedust, Lime, Plaster of Paris, &c.

Fruit and Ornamental Trees and Shrubs.—Orders taken for these, and executed from a choice of the best Nurseries, Gardens, and Conservatories in the United States.

Horses, Cattle, Sheep and Swine.—Orders executed for stock of all kinds, to the best advantage.

A Descriptive Catalogue.—This will be sent to any one gratis, upon application, post-paid, to the subscriber. It comprises nearly 60 pages, and is illustrated with a great variety of wood cuts.

The American Agriculturist.—A monthly publication of 32 pages octavo, handsomely embellished with numerous engravings.—Price \$1 a year.

The American Agriculturist Almanac.—32 pages, with wood cuts.—Price \$15 per thousand.

Agricultural Books.—A general assortment of all kinds.

A liberal discount made to dealers.

A. B. ALLEN,

No. 137 Water Street, New York.

BEAUMONT FARM FOR SALE.

THE above Valuable Property is within 3 miles from Bytown, and two miles from the Gloucester Mineral Springs, and consists of 245 acres of the best Land, of which about 200 Acres are under cultivation. It fronts the Ottawa River in the Township of Gloucester. There are on it erected two first-rate new Barns, 40 x 60 feet, a large Stable and Sheds, a good Log House for the working men, the best Wharf on the Ottawa River, a Stone Cottage 50 x 56, to be completed on the first day of July next, and as a Farm House will be inferior to none in this Province. On a part of the said Farm there is an inexhaustible Quarry for Cut Stones—the nearest to the flourishing town of Bytown, and owing to its intercourse with the Lumber trade, is the best market-place in the Province, which must render this farm a desirable acquisition. The owner will also sell his stock of Cattle, Horses, Farm Utensils, and a new and unlimited-power Stumping Machine.

For further particulars, apply to

J. BARREILLE.

Bytown, 10th April, 1846.

**TO THE FARMERS.**

IN consequence of the contemplated changes by the Imperial Parliament of the Corn Laws of Great Britain, which, if carried into effect, will materially alter the prospects of this Province as an Agricultural Country, and as it will be incumbent on us to make a home market for as much of our surplus produce as possible, the only way to do this is to encourage *Home Manufactures*; by doing this you will create a Market in the Country for a large amount of your surplus produce at a much better price than you can expect to get by exporting it to other countries.

As we have been known to a great many of you for some time back, we do not consider that much is required to be said by us, but that we have gone to a great expense during the past year in increasing our Establishments both here and at Streetsville, by adding all the latest improvements in Machinery. We are enabled to offer a large stock of the following articles manufactured by us, Cloth, twilled and plain, of different colors and qualities; Sattinett, Tweeds, Checks for men and women's wear, flannels, in all the different varieties, Carpeting of superior quality, and Blankets, which we will be ready to exchange for any quantity or quality of wool, on our well known principle of

**LIVE AND LET LIVE,**

which the public can rest assured will be as favorable as at any other establishment in the province.

Persons coming from a distance will find a great advantage in getting the manufactured goods home with them, and of such a quality, as cannot fail to give general satisfaction.

All kinds of custom work done both here and at Streetsville, with neatness and despatch, and all damages (should any occur) to either Cloth or Wool, will be made good.

**WM. BARBER & BROTHERS.**

Esqueping Woollen Factory, }  
Georgetown, 13th April, 1846. } 3

**EASTWOOD & Co.**

*Paper Manufacturers, Stationers, School Book Publishers, &c.*

**YONGE STREET, TORONTO,**  
AND  
**KING STREET, HAMILTON,**

**HAVE** constantly on hand an assortment of all the Popular and Standard SCHOOL BOOKS in use throughout the Province, together with BLANK BOOKS of every description, WRITING PAPER of all kinds, PRINTING PAPER of any size required, WRAPPING PAPER, various sizes and qualities, STATIONERY, &c.

In addition to the above they keep at their Establishment in Hamilton, a full and varied assortment of FANCY STATIONERY.

Every description of RULING and BINDING done to order.

RAGS bought and taken in exchange.

**FOR SALE:**

- 1 thorough-bred imported short-horn Durham Bull, 4 years old.  
1 do do 2 do  
1 do do 1 do  
2 do Bull Calves 3 & 4 months do  
3 do Cows 4 & 5 years do  
2 do Heifers 2 do  
2 do Heifer Calves 3 & 4 months do  
3 superior grade yearling Bulls.

**ALSO,**

- 1 thorough-bred 2 years old South-down Ram.  
1 do 2 do Merino do

The former is from the highly valued flock of Mr. Ellman, England, and cut eight pounds of Wool as a yearling. The latter cut eight and a half pounds at the same age, and is from the extensive and valuable flock of Mr. Noble, Massillon, Ohio, and finer wool is not to be found.—

Also, a number of Pigs, of various ages, of the pure Sussex breed, and of the improved Russian grass-breed.

Part of the above Stock possesses as good blood as can be produced. For pedigree and prices of the same, apply to HENRY PARSONS, *Ancaster, Gore District*, who will show the same to any gentleman that may favor him with a call.

May, 1846. 1

**The British American Cultivator**

(FOR 1846, NEW SERIES)

Is published on the First Day of every Month, at Toronto, by EASTWOOD & Co., to whom all orders must be addressed.

W. G. EDMUNDSON, } Proprietors.  
EASTWOOD & Co. }

W. G. EDMUNDSON, *Editor.*

Each number of the *Cultivator* contains 32 pages, and is subject to one halfpenny postage, when directed to any Post Office in British America.

*Advertisements will be inserted for One Dollar if not exceeding Twelve lines, and in the same proportion, if exceeding that number.*

*Terms—One Dollar per year; Four copies for Three; Eight for Five; Twelve for Seven; and Twenty for Ten Dollars.*

*All payments to be made invariably in advances and free of postage.*

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

Toronto, Jan, 1846.

**J. CLELAND,**  
**BOOK AND JOB PRINTER,**  
KING STREET, TORONTO.

*Adjoining Mr. Brewer's Book Store, leading to the Post Office.*

Every description of Plain and Ornamental Printing neatly executed on moderate terms.



**HAMILTON TANNERY,**  
(Directly East of the Court House,)

HAMILTON, C. W.

They keep constantly on hand Sole, Harness, Upper, Skirting and Bridle Leather, Calf, Kip, and Sheep Skins, also Strap Leather, &c. &c.

**T**HE Subscribers thank for all past favors, beg to remind their old Customers and the Trade generally, that they still carry on at their old stand as usual, and having taken all the principal Premiums at the Annual Fair, for the last three years, can therefore with confidence say, that they can supply them with as good, if not better Articles, and at as low rates for Cash, as can be bought in any other establishment in Canada.

☞ Cash paid for Hides, Calf and Sheep Skins.

**CLEMENT & MOORE.**

Hamilton, }  
March, 1846. }

Always on hand a general assortment of Lasting  
Percs, Boot Trees and Gimpes, &c.  
Coach, Belton's, and Grain Leather made to order

**ST. CATHARINES NURSERY.**

**T**HE Subscriber still continues the cultivation of the most choice kinds of **FRUIT TREES**, and has now a good assortment of *Apple, Peach, Plum, Nectarine, Apricot, Quince, and Cherry*. He is growing an extensive **ORCHARD**, consisting of all the varieties, which he offers for sale; and many of the trees have already borne Fruit, enabling him to cut his Grafts from such as are true to their names.

In this manner he hopes to attain that degree of accuracy in cultivation which will enable him to avoid those mistakes so unpleasant to purchasers.

Apple, Peach, and Quince Trees, are 1s. 3d. currency, each, or £5 per one hundred.

Apricot and Nectarine are 1s. 10½d each, Cherry and Plum 2s. 6d. A liberal discount will be made to any person or company that may buy one thousand.

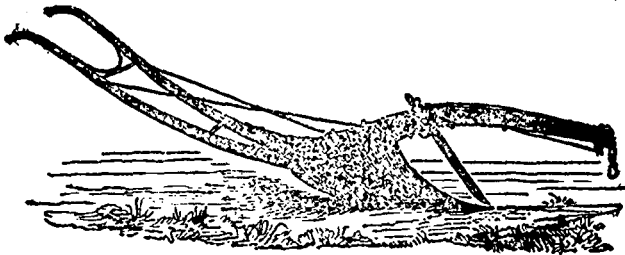
Catalogues will be furnished gratis to all who may apply. All orders by mail for Trees or Catalogues will receive the earliest attention if *post paid*.

Orders for trees must *invariably* be accompanied by Cash or a satisfactory reference.

**C. BEADLE**

St. Catharines, January 1st, 1846.

**PLOUGHS, FARMING IMPLEMENTS, &c.**



**T**HE Subscriber in addition to his business of **WAGGON MAKER**, makes all kinds of **FARMING IMPLEMENTS**, such as

**SCOTCH PLOUGHS, HARROWS, REVOLVING HORSE RAKES, &c.**

He would most respectfully state that he obtained the Second Premium for his

**WOODEN SCOTCH PLOUGH,**

(of which the above is a correct Drawing,) and also the First Premium for his

**REVOLVING HORSE RAKE,**

at the Spring Show of the Home District Agricultural Society for the year 1845.

☞ All Orders accompanied with the Cash, or a reference in the City, will be promptly attended to.

**JOHN BELL,**

*Waggon Maker, Victoria Street.*

Toronto, March, 1846.