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The Farmer's Journal,

AND

TRANSACTIONS

OF

The Lower Canada Board of Agriculture.

Vol. IV. No. 12, Montreal, April, 1857.

POSTAGE FREE.

Price 2s 6d per annum, in advance.

The Farmer's Journal.

THE LATE HEW RAMSAY, ESQ.

We have to record with deep regret the decease of the publisher of this Journal, HEW RAMSAY, Esq., for twenty-four years a resident of this city, and one of its most respected and esteemed citizens. Mr. RAMSAY was a man of liberal education and strong literary tastes; and a zealous promoter of education and popular enlightenment. He always evinced a lively interest in the important objects for which this Journal was established, and devoted much time and thought to its management. Those who have experienced the difficulty of maintaining in this country an Agricultural literature, can alone appreciate the value of his useful exertions in this respect.

The following extract is from the Hon. Mr. Justice Day's address at the late conversazione at Burnside Hall, and indicates the value which should be attached to the educational efforts of Mr. Ramsay:

"And yet I must ask your sympathy in one thing more—a word of sad, just tribute to the memory of one who was but a few weeks since a Governor of this University. Among all the friends of education and human progress, there was not in this Province a more faithful, judicious and untiring one than the late Hew Ramsay. To an excellent education and large stores of knowledge, which that lamented gentleman possessed, were united a fine natural intelligence, a sound judgment, and a true and benevolent heart. To him, perhaps, more than to any other one man, may be justly ascribed the progress of this University, and

the position which it now occupies. His death, in the vigor of manhood, was a great misfortune to it, and a loss to the community in which he lived. Whoever, like him, has, by earnest efforts, been instrumental in dissipating the obscurity of ignorance, and

letting in the pure, piercing light which irradiates and spiritualizes this dark and cloddish humanity of ours, has done a work which should embalm his memory in our hearts—for it is second in intrinsic nobleness to none which can claim a country's gratitude."

:O:

Wm. EVANS, Esq.

*Late Secretary of the
Board of Agriculture for
Lower Canada.*

For the above characteristic likeness of Mr. Evans, engraved by Walker, of this city, we are indebted to the kindness of the Hon. Superintendent of Education, by whose orders it was prepared to illustrate a biographical sketch from the pen of Mr. Chauveau himself, in the last number of the *Journal de l'Instruction Publique*. Our readers will, we know concur with us in thanking that gentleman for thus perpetuating for their benefit the thoughtful features and fine brow of our departed friend.



:O:

BOARD OF AGRICULTURE.

{ BOARD OF AGRICULTURE,
Montreal, 3rd March, 1857.

The Board of Agriculture met on the 3rd March instant, and the following gentlemen

were present:—R. N. Watts, Esq., President; E. J. Deblois, Esq., Vice-President; Major Campbell, C. B., John Yule, Esq., B. Pomroy, Esq., and Principal Dawson, McGill College. The President took the

chair. A list of different subjects, and the Accounts for last year were put before the Board by the Assistant Secretary.

1. Application from L. A. H. Latour, Esq., to have twenty copies of the *Farmer's Journal* for distribution in the United States. The Assistant Secretary is instructed to inform Mr. Latour that his application is granted from the present date.

2. Report on the Cultivation of the Seeds got from the Paris Exhibition, by Major Campbell, C.B. To be published in the *Farmer's Journal*.

3. Report on do. do., by Mr. Faris, of Sorel. To be published in the *Farmer's Journal*.

4. Account sent by M. M. Salter & Ross, for printing Mr. Evans' pamphlet on Agriculture. M. M. Salter & Ross to be informed that this was a private affair of Mr. Evans'.

5. Letters from different parties suggesting alterations in the Prize List were discussed, and some of their amendments were adopted.

6. Several letters containing Reports of the Organization of different Societies for the current year were submitted. From some Counties, entitled to one Society only, there were more than one; each claiming to be the County Society.

This confusion, caused by the imperfect legislation of last year, the Board was at a loss to unravel, and referred the question to the Minister of Agriculture, requesting early instructions for its guidance, as its proceedings on that point must continue stationary during the interval.

7. The following to be forwarded for publication to the following Journals—three insertions in each Journal:—Toronto Globe, Toronto Leader, Montreal Gazette, Montreal Herald, Montreal Pilot, Montreal Minerve, Quebec Chronicle, Quebec Courrier de Canada, Quebec Journal de Quebec.

"Wanted,—To fill the office of Secretary of the Board of Agriculture for Lower Canada, a person able to correspond both in the English and French languages. He must have a *practical knowledge* of Agriculture. Salary £250. Arrangements may be made with the Publisher for Editing the *Farmer's Journal*.

"Application will also be received from any party conversant with the English language only, well versed in *Practical Agriculture*, who might be disposed to undertake the office with a smaller salary, to be aided by

an Assistant to conduct the French correspondence."

8. Correspondence between the Minister of Agriculture and the President of the Board of Agriculture on the subject of importation of grain, was laid before the Board. The condition contained in Mr. Vankoughnet's letter of the 6th January, that the money be paid before hand, was thought to be out of the question. Nor could the amount be ascertained until the cost and expenses were incurred.

9. The Minister of Agriculture requests the Board to express its opinions on the laws relating to Agricultural Societies in Lower Canada. Certain amendments were adopted by the Board to be recommended to the Minister.

10. *Resolved*,—That the Board have received with regret a communication from the City of Montreal and County of Hochelaga Agricultural Society, declining to merge their funds for the current year in those of the Association towards the expenses of the Exhibition to be held in Montreal in September next; inasmuch as the funds of the Association are limited and its expenses will be heavy.

The Societies of Quebec, Sherbrooke and Three Rivers contributed the whole of their funds to the Association, during the years the Provincial Show was respectively held at those places. The Upper Canada Societies have invariably contributed their funds under similar circumstances, and the Board cannot refrain from expressing its deep regret that a like liberal course should not be followed by the City of Montreal and Hochelaga Agricultural Society.

11. No answer having been received from the Jacques Cartier Agricultural Society to the application of the Board to merge their funds in those of the Association for the current year.

Resolved,—That the Assistant Secretary be directed to renew the application.

12. In reply to the petition of Mrs. Evans, to His Excellency, it was

Resolved—That the Board owes as a duty to the memory of their late Secretary, Wm. Evans, Esq., to bear testimony to his untiring zeal and disinterested services in the advancement of Agricultural interests in Lower Canada, during a period exceeding 20 years,—that his private means as well as his time, were freely contributed to the cause, to the prejudice of his health and fortune; under these circumstances the Board strongly and

urgently recommends the petition of his widow to the favorable consideration of the Governor General.

Resolved,—That the Board, before separating, expresses its sincere sympathy with Mrs. Evans, in the severe bereavement with which she has recently been afflicted.

Resolved,—That a copy of the two foregoing Resolutions be sent to the widow of the late Wm. Evans, Esq.

The Board then adjourned.

T. CHAGNON,
Asst.-Sec. Board of Agriculture.

—:o:—
Reports on the cultivation of the Seeds got from the Paris Exhibition.

ST. HILAIRE, 20th Dec., 1856.

SIR,—In compliance with the request contained in the letter which accompanied the different samples of seeds from the Paris Exhibition, sent to me for experiment, I have the honor to report on their cultivation as follows:—

Portugal Maize, sown 5th June, grew to the height of 12 feet, bore well, but the grain did not ripen.

Small Sweet Maize, sown 5th June, ripe 15th September, prolific.

Spanish Maize, white, sown 5th June, ripe 20th September, average bearer.

White Runner Bean, sown 5th June, bore well, pod tender.

Lupinus, sown 5th June, ripe 20th Aug.

Spanish Pea, brown, sown 5th June, ripe 10th August, bore well.

Spanish Pea, grey, sown 5th June, blossomed, but did not pod well.

White Peas, marked 4, sown 5th June, prolific.

Spanish Horse Bean, sown 5th June, did not ripen.

Bohemian Bean, sown 5th June, did not vegetate.

Large White Kidney Bean, sown 25th May, pulled the first pods 7th July, continued bearing till killed by frost, large tender pods, much to be recommended.

Horse Bean, marked D, sown 5th June, ripe 1st September, nothing extraordinary.

The quantity of each seed being very small, I selected favorable places in the garden to sow them in.

The varieties of wheat having the appearance of Winter Wheat, were sown in the autumn; of these a report will be made to you after next harvest.

I have the honor to be, Sir, your obedient servant,

T. E. CAMPBELL.
To William Evans, Esq.,
Secretary to the Board of Agriculture
&c. &c., Montreal.

—:o:—
SOREL, 3rd January, 1857.

Mr. EVANS,
DEAR SIR,—In answer to yours of 22nd ult., I beg to state, that I did not receive

the Paris seeds from you till Saturday the 24th May, I planted the corn and beans on Monday 26th, the beans grew very well, they seemed very good to use green, but the pods did not fill, and first frost killed them all.

The corn grew very luxuriant, by about one hundred grains, I had two ears on every stalk, one large and one small, only some of the large ones ripened, the stalks were from eight to ten feet high, I am afraid the corn is not ripe enough for seed, but I have saved the best of it, I took you two ears as samples in the fall, one of the largest and one ordinary size, if I go to Montreal I will carry up some more of the ears to show you.

I will sow all the other seed early in spring, and let you know the result.

I am, dear Sir, yours truly,

WILLIAM FARIS.

—:o:—

The Coming Summer.

By the time that this number reaches the fire-sides of our readers, the winter will have nearly passed away, and all nature will be putting on the aspect of approaching summer. The farmer must now nerve himself for the work of spring, and in doing so we would have him think, over the improvements he may undertake, and the lessons he has learned during the winter. We often form large resolutions in winter, which evaporate in the spring. In winter we become book-farmers and plan great things. In spring the pressure of hard work forces us to move on much in the same way as before. When we resolve in winter however, we should also prepare. The farmer who in winter has provided his summer fire-wood, and fencing, who has repaired his buildings and farm implements and gear, who has laid up the materials of composts, and carefully cleaned and arranged his seeds, is in a better position to engage in improved farming than he who has neglected such things.

It is better however to do well late than never. Now is a good time to look over everything that by present preparation can save labour in summer. To be able to commence the spring with wood-sheds, stables, barns, barn-yards, roads, fences, and farm gear, all tidy and in order, is one of the greatest possible savings in time, money and temper.

These things being looked to, we should ask a few questions of ourselves as to the efforts we mean to make and the results we hope to attain. Do we hope to take from the land heavy crops in autumn? Then we should be prepared to put in now something substantial in the way of manure. Can

we hope that year after year our carts and waggons should groan under the weight of our harvests, if we take little or nothing back to the fields from which we expect so much; nay more, if we do not take back those very kinds of things that we are taking off. How then can we best save and apply all the manure produced in the past winter, what can be added to it of muck, compost, lime, gypsum, ashes, guano, phosphates. Let us do what we can in these ways, and if possible let us make arrangements to compare the results of such applications for our guidance in future years.

What are we to do in the present spring in planting, grafting, and pruning. Preparation should be made at once. A little done every spring in these things makes permanent improvement and profit; that is, if we select good and profitable varieties, and do them justice in the selection of ground and treatment. We would here also bespeak a little attention to ornament, especially to adorning our houses and their approaches with shrubs and trees.

What are we about to do in root culture. The census of Lower Canada shows an annual yield of only 334, 250 bushels of turnips. This is very small indeed, for a country having nearly 600,000 horned cattle, and more than that number of sheep. What would British farmers say to half a bushel of turnips per annum per head of cattle.

This subject well merits attention, as the surest basis of good and profitable agriculture. We have already, in previous numbers written largely of the culture of the turnip, carrot, mangold wurtzel, and parsnip. We may now add, not of course as a root crop, but as occupying the same place in the rotation, and requiring the same sort of culture, the English or horse bean; which in the quantity of nutritious food contained in its seeds and straw, is inferior to no cultivated crop. In some counties of England it is estimated that not more than one tenth of the present stock could be supported without this plant. It will not grow however on poor land, in the manner of peas and the small kidney beans; but requires the same manuring and culture with the potatoe and turnip, and thrives best in heavy strong soils, especially when naturally rich in lime. Farmers having rich soils, would do well to try a few drills, and inform the public of their results.

Several new articles of culture have been proposed in the past year. The Japan

potatoe, Rape and other plants for oil, the Poppy, and last but not least the Chinese Sugar Cane, may serve for illustrations. Farmers should not trust too much to such things, nor venture on them on a large scale rashly, but they would do well to make such experiments as may be in their power.

Do we mean to do anything in the way of deeper ploughing, sub-soiling or under-draining. These are in most soils certain and safe improvements. Let those who doubt try on ever so small a scale, and if they will not trust to advice, trust to experience. At the least do not neglect at this season to watch where water stagnates, and to provide for letting it off in time to prevent the necessity of ploughing up mud when the rest of the ground is dry.

Another important subject now calling for attention, is the planting of hedges. Plants can be procured at a very moderate rate per thousand. They form a fence in six to eight years—and once formed it is ornamental, serviceable, cheap, and durable.

Several of the subjects above glanced at have within the past twelve months occupied considerable space in this Journal. It might be profitable to many of our friends to refer to some of these articles, and we shall now close with the general remark that rotation of crops, thorough tillage and draining—culture of green crops, economy of manures, and prudent application of mineral and portable manures, embrace many of the most important points, which should now receive the careful consideration of the farmer.

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AGRICULTURAL CONTRIBUTIONS.

Nothing has more surprised and annoyed us since we have been connected with this Journal, than the absence of original communications from agriculturists. The deficiency of original matter in this Journal does not, we again beg to assure our friends, proceed from our suppressing communications received, but from our not receiving any. We invite contributors to our pages, and beg again to refer to the subject at this season, with the view of asking our readers to make notes of the progress of any experiments they may be about to make, and to give the public the benefit of anything that may occur in their practice, and may in their judgment be beneficial. With respect to the style of such communications, we may refer to the following extract from one of our exchanges:

Writers for the Press.—We fully en-

dorse the following:—Many practical farmers, who have been taught in the best of schools, that of experience—decline to write for the press because they have not received the education of scholars, and do not write in a smooth and elegant style. If they were solicited to contribute to the columns of literary papers, where style often passes for more than thought, this might be a legitimate excuse. But writers for the agricultural press need only two things, neither of which is dependent upon the upon the graces of mere literature: 1st. Something to say; and 2nd. A few clear, plain words in which to say it. If our rural friends will bear these two points in mind, they may write to us often as they have a leisure half hour, and we will stand all consequences. Nay, we solicit them to do so. We dare them to write us out of patience, if they think they can. We challenge them to put more interesting facts in a brief communication than we can publish. We defy them to write in language so plain that we cannot understand it. Let us see, now, which one of them will take up this gauntlet first.

PROSPECTS OF AGRICULTURE.

There is now no doubt in the minds of the greater number of politicians that the immense advances in commerce, manufactures, and mines, and especially the great extension of colonization in regions not agricultural, as California and Australia, must give a permanent stimulus to the culture of the soil, and enhance the value of all its products. Raw material produced from the soil, and the bulky articles of human food, are becoming scarce, in comparison with money and manufactured articles; and just as for the last half century human progress required constant attention to the advancement of the mechanic arts, so now men must, to meet the increasing want of food and raw materials, devote increased attention to agriculture; and the farmer should endeavour to extend and improve his culture to meet the new demands made upon him. Agriculture is in truth "looking up" in the world of trade, and if we can produce in an economical and profitable manner, the bread stuffs, the meat, the hides, the hemp and flax, the sugar, and multitudes of other things that commerce is now searching the world for, we need not despair of agricultural prosperity. We copy the following remarks on this subject from the *Boston Traveller*:

In the prospect which is now favorable for the gradual disappearance of the disease which has affected several important crops, there need be little fear of any dangerous or

damaging social or political revolution in Europe. Dynasties may change, and modifications of governments occur, but in this era of trade, neither the fanatic radical, nor the despotic tyrant, nor any oppressive class aristocracy, will dare to oppress or even interfere with industrial labor, enterprise and capital. Politicians may rise with every new moon and fade into oblivion with its wane, but none of them will dare to molest the industrial and business interests of the times, and these will one day become powerful enough to invade and take possession of every stronghold of political tyranny and religious bigotry in all the great nations of the world.

A good harvest in Europe and the United States, at the present juncture, will give an unwonted stimulus to industry and wealth, and spread faster and farther their overwhelming power in renovating or destroying the barbarian and semi-civilized races with which they chance to come in contact, as well as people and bring into cultivation many now unvisited wilderness wastes.

But while, on the one hand, there is not likely to be any disastrous reaction in the business world, consequent upon the expansion of paper credits; on the other there will certainly be some disappointment in regard to the profits which will flow from this rapidly growing and widely extending business. Under this system competition periodically reduces the remuneration of capital and enterprise below that secured to labor. It is this which makes the system dangerous in old and popular countries, that have no new lands upon which to colonise redundant population in the towns and cities, in these crises of overtrading.

The income of commercial and manufacturing capital is now in many cases below that of agricultural labor, and an equalizing process must soon commence. The agricultural interest throughout the world is now in the ascendant. The patient Asiatics are draining Europe of all its silver to pay for their products; and the growers of tropical productions and of breadstuffs are monopolizing all the new found gold which has been so abundantly scattered abroad.

Either agriculture must soon be reinforced by recruits from the ranks of the army of adventurers employed in manufactures and commerce, or these avocations must be curtailed to meet the diminishing supply of food and raw material. The adjusting process will be somewhat perplexing and uncomfortable, but no very long continued trouble or inconvenience of a serious nature will be felt by those who regard properly the signs of the times, and are prudent and watchful.

Louis Napoleon's Farm.—A Paris letter in the *Independance*, of Brussels, says:—"The Emperor's private farm at Fouilleuse has just been stocked with its large cattle; thirty superb cows, chosen by M. Mathieu, the steward of St. Cloud and of

Villeneuve-l'Étang, have been placed there. The first wheats have just been sown. Such as it now stands this farm has cost a million; it is scarcely more than 100 hectares (250 acres) in extent, including the meadows in which the Polygon of Mont Valerian is situated. Numerous visitors have already gone to see the farm, many of them English."

English Mutton in New York.—One of the fashionable eccentricities of the day which have sprung from the rapid intercourse that has been established between Europe and the United States is eating English mutton. No dinner is now considered perfect without a saddle or a leg of mutton, brought by the last steamer. English mutton is not only served at all the restaurants and public hotels, but at the tables of private houses.

Chinese Sugar Cane, Or, Sugar Millet.

Early last spring, through the kind attention of the Commissioner of Patents, we were furnished with several packages of the seed of the *Chinese Sugar Cane*, or *Sugar Millet*. These seeds we took pains to place in the hands of such persons as we supposed would plant and tend them, and then give us some account of the crop, whether of the crude plant, or of any extract from it; and whether, in their opinion, further experiments ought to be made with it, in order to determine if it may be introduced into New England as a profitable crop.

In order to have some personal knowledge of it, we planted, and in about one hundred days saw the plants standing ten feet in height, with their seed heads beautifully developed, and their whole appearance luxuriant and promising. Absence from home prevented us from extracting and boiling their juices, or from seeing cattle or swine feed upon the plants.

Several persons, however, to whom we sent the seed, did extract their juice, boiled it, and produced a rich, finely-flavored and colored syrup; some of it now standing by us produced by Mr. Hyde, the author of the Manual on the "Chinese Sugar-Cane," has deposited in the bottom of the bottle containing it a sediment of sugar, much resembling that found at the bottom of our New Orleans molasses. Mr. H. states that cattle and swine are fond of the plant.

A gentleman in another part of the State inform us that the plants grew well with him, though they did not perfect their seed, being planted quite late; his hogs ate them greedily, would even chew the dry stalks, and seemed to find great pleasure in grinding and sucking till all their juices were exhausted. His cattle would eat all clean when they were green and succulent, and when frost-bitten and dry would like them still.

We have no hesitation in advising those to whom it may be convenient, to test the value of the plant, both as fodder and a syrup and sugar producer. Our climate, with our intensely hot summer suns, is admirably adapted to the corn plant, and it seems to us will be equally well adapted to the sugar-cane. For one season at least, it will be well to exercise our wits in extracting the juices so as not to incur heavy expenses in machinery for that purpose.

Seed will be plentifully found at the agricultural warehouses before planting time, and the present high prices of molasses and sugar ought to stimulate large numbers to test the merits of this new plant.—N. E. Farmer.

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THE NEW SUGAR PLANT.

From the Canadian Agricultural.

While we would caution our farmers against believing all the stories told about new plants, especially by those who have seed to sell at a high price, we recommend a trial, and a fair trial, before passing sentence of condemnation. The following remarks upon the Chinese Sugar Cane are from an American journal of high standing. They deserve attention:—

The cultivation of the *Sorghum*, or Chinese sugar-plant, has thus far proved so decidedly successful in this country, not only in the South, where it seems to have been demonstrated that two crops or cuttings of sugar-bearing stalks can be obtained in one season from the same roots of that year's planting, but even so far north as Minnesota, where, it is testified that good syrup was made in 1856 from stalks hardly a hundred days from the seed, that we are impelled to urge upon our farmers and gardeners the importance of early attention to the procuring of seed and planting for the season just before us. Let us all grow the seed this year, so that it can never more be so scarce that speculators may run it up to an enormous price. A great deal remains to be settled with regard to this plant, especially the best mode of converting its saccharine properties into crystallized Sugar; and it is highly probable that better varieties of it will ultimately be discovered, at least for certain localities, than that now current in this country. For the present, however, it is advisable to continue and extend the cultivation of that which is accessible, and thus test the effect of acclimation on the character of the plant, and the sweetness of its juices. We suspect that for Louisiana, Florida, and Texas, the *Sorghum* of Southern Africa will ultimately be found preferable to that obtained from France by our Patent office, and from China by France. If it prove true that this plant, or certain varieties of it, can be grown in semi-tropical latitudes from the same root, as the cane is grown in the West Indies, and that two or more crops of sugar-yielding stalks may be cut from that root each season, then there

can be little doubt that our Southern States are destined still to lead the North in the production of Sugar. For the present, however, it suffices that the *Sorghum* may be grown whenever Indian Corn will usually ripen—that its abundant juice makes a very pleasant syrup or molasses, to which it is easily reduced by boiling away four-fifths of it in the ordinary mode of sugarmaking from the sap of the maple—and that the leaves and stalks, whether green or dry, of the *Sorghum* make an admirable fodder for cattle, horses, or hogs, while the seeds are eaten with avidity by fowls also, to justify the general interest evinced in its cultivation. We propose, therefore, to condense into the smallest space some practical directions to the prospective cultivator—as follows:

1. *Seed.*—If there be a seed-store within your reach, your easiest way is to send and buy what seed you want. In planting to raise seed (the first year's object), a pound will suffice for an acre; and this ought not to cost more than a dollar. But beware of impostors and swindlers, for bushels of broom-corn and kindred seeds will be palmed off as that of the *Sorghum*. Where you cannot readily obtain seed in this way, write to your member of Congress, asking him to send you a paper, and he will generally be able to do so. If not, the Secretary of your State Agricultural Society may be able to supply you.

2. *Planting.*—Choose a warm, mellow soil, such as you would confidently expect to grow at least fifty bushels of Indian Corn to the acre. Plough early, plough deep and thoroughly. Plant as early as you could venture to plant corn. If you have a hot-bed, start a little seed in one corner of it. If you plant considerably, put in your seed at different times—say, in this latitude, one quarter each on the 1st, 10th, and 20th of May and 1st of June respectively. Plant (for seed) in hills, six seeds to the hill, and at distances of four feet each way. Try some five feet apart east and west (so as to let in the sun between the rows), and some in drills—say four to five feet apart east and west, with the seeds six inches apart in the drill, and thin the plants to one foot apart. If you have seed in abundance, sow a little in drills two feet apart, the seeds in the drill but two or three inches apart. Cover lightly, as the seed rots if covered deeply. Keep the hens at a distance, or it will come up too soon.

3. *Tillage.*—The *Sorghum* comes up looking very puny.—much like broom-corn or barn-grass. If you set a blockhead to weed it, he will probably pull it up and report that it never germinated. Cultivate like Indian Corn—only faithfully. If suckers start, a majority say pinch them or pull them off—that is, in growing for seed. This need not be done in growing for sugar.

4. *Harvesting.*—Whenever the seed shall be hard and black, cut off the upper part of the stalks, say three feet long, and

hang them up like broom-corn, in a dry chamber, suspended from the ceiling, so as to be out of the way of rats, &c. Now cut up your stalks, pull off the leaves, and satisfy yourself that all manner of stock will eat them; cut up a few of the stalks as you would corn-stalks, and try a like experiment with them; and put the rest of the stalks through any kind of a crushing-mill that may be handy—a cider-mill would be better than nothing—catch the juice and instantly warm it over a slow fire in a large kettle, skimming off the scum so long as any shall rise. Then boil the juice about four-fifths away, as if it were maple sap. Use a little lime or lime-water to neutralize the phosphoric acid, which otherwise will give a slightly acid but not unpleasant taste so the syrup. Save some syrup without this neutralizing the acid, as you may like it better that way. Don't waste the scum, but throw it to the pigs, where it will make at least excellent manure. Feed the pamoce or crushed stalks to your cattle; and having thus cleared the ground, be ready to plant or sow extensively next Spring.

5. *Fodder.*—We estimate that, whenever seed shall be sufficiently abundant, any rich, warm land will produce a third more fodder per acre if sown with *Sorghum* than if sown with Indian Corn, and that the *Sorghum* is at least twenty-five per cent more nutritious than the corn. But all that can be affected this year is to grow a good supply of seed, and prove that this plant is valuable both for Syrup and Fodder. Next year will be soon enough for most cultivators to think of sowing for fodder or grinding for sugar.

One word of caution to experimenters: Don't run the thing into the ground. The *Sorghum* will prove a valuable addition to our crops, if we don't render it odious by some *Multicaulis* foolery. But wheat, Indian corn, and clover are not going out of fashion for some years yet.

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AMERICAN METHODS OF MAKING MAPLE SUGAR.

The following statements were given in to the N. Y. State Agricultural Society by competitors for the premiums on maple sugar:

In the first place I make my buckets, tubs, and kettles all perfectly clean. I boil the sap in a potash kettle, set in an arch in such a manner that the edge of the kettle is defended all around from the fire. I boil through the day, taking care not to have anything in the kettle that will give color to the sap, and to keep it well skimmed. At night I leave fire enough under the kettle to boil the sap nearly or quite to syrup by the next morning. I then take it out of the kettle and strain it through a flannel cloth into a tub, if it is sweet enough. If not, I put it in a caldron kettle, which I have hung on a pole in such a manner that I can swing it on and off the fire at pleasure, and boil it

till it is sweet enough, and then strain it into the tub and let it stand until the next morning. I then take it and the syrup in the kettle, and put it altogether in the caldron, and sugar it off. I use to clarify, say 100 lbs. of sugar, the whites of five or six eggs, well beaten, about one quart of new milk, and a spoonful of saleratus, all well mixed with the syrup before it is scalding hot.

I then make a moderate fire directly under the caldron, until the scum is all raised, then skim it off clean, taking care not to let it boil so as to rise in the kettle before I have done skimming it. I then sugar it off, leaving it so damp that it will drain a little. I let it remain in the kettle until it is well granulated. I then put it into boxes made smallest at the bottom, that will hold from 50 to 80 pounds, having a thin piece of board fitted in 2 or 3 inches above the bottom, which is bored full of small holes to let the molasses drain through, which I keep drawn off by a tap through the bottom. I put on the sugar in the box, a damp, clean cloth, and over that a board well fitted in, so as to exclude the air from the sugar. After it has done or nearly done draining, I dissolve it and sugar it off again, going through with the same process in clarifying and draining as before. J. WOODWORTH.

Watertown.

This sample of sugar was made in the month of March, thus:—The sap was boiled to the consistence of good syrup, then taken out and strained, put into a wooden vessel to cool and settle, and then it was drawn off and beaten in a kettle to ninety-eight degrees; then added one ounce of saleratus. The whites of four eggs, and two quarts of milk, were dissolved and beaten together; then keep up the heat until all the scum has risen; then take off the scum before it boils, and boil until it will form a wax on snow or in cold water; then take it from the fire and put it into tin pans to cool, and when the grain is well formed, place the sugar in tunnel shaped boxes to drain, with a wet flannel cloth on the top, and cover it with a board to keep off the air; let the molasses all drain out.

The same operation is done again by dissolving the sugar when cleansing.

Rutland.

M. EAMES.

The tubs are kept sweet and clean.—Smoke, ashes, or dirt of any kind will injure the color and grain of the sugar. Boil the sap without delay, straining before boiling. Use sheet iron boilers placed on arches, boil three barrels of sap to five gallons of syrup.

For cleansing, stir the whites of three eggs and one pint of milk into five gallons of syrup, place it in a sheet iron pan on a stove to boil, then strain it through flannel, than boil it till it grains. When grained, pour it in a drain formed of boards, tapering to the bottom with holes for the molasses to escape.

W. E. WHITE.

Walton.

In manufacturing the sugar I present for your examination, the strictest attention was paid to cleanliness, from the beginning to the end of the process. The sap was boiled to a syrup in sheet iron pans, so set in an arch as to be exposed to the fire only along the centre of their bottoms. The syrup was strained into a wooden vessel, where it stood 24 hours to settle, after which the vessel was tapped about three inches from the bottom, and the syrup drawn off, leaving the sediment in the tubs.

It was then, after being cleansed with the white of eggs, boiled to a proper consistency for graining. It was then subjected to the process of draining in a tub provided with two bottoms, one about four inches above the other, and minutely perforated, after which the sugar was again reduced to syrup, and again subjected to the same process of boiling, cleansing and draining as before.

The number of eggs used, was at the rate of eight to the hundred pounds of sugar. E. BIGELOW.

—:o:—

HOW TO RAISE EARLY CROPS.

It is of the first importance for the kitchen gardener, whether he be a private or market gardener, to pay strict attention to his first crops. To be first on the list with a dish of every kind of vegetable, secures to the private gardener confidence in his skill by his employer, and to the market gardener the highest prices for his produce.

The first crop of peas, according to an "Old Digger" in the Horticulturist, (whom we recognize as no other than the lamented worthy Editor himself,) can best be raised in troughs or long shallow boxes, placed in frames or other warm place to start by the first of March, which if planted out carefully when the weather becomes mild, "don't know that they have been moved at all, and grow on, settling themselves as if they had been sown there and had a pre-emption right to the ground."

This brought out a reply from another correspondent who had "tried another plan which, if no better," was strongly recommended for trial. It consisted of opening a trench six inches deep, exactly where the row of peas were to come, and filling it two-thirds full of recently made horse manure; an inch and a half of soil was added and the peas sown. Boards were then nailed in the form of a V, and inverted over the peas in all cold or wet weather, until they were ready for bushing. Soil was afterwards added to raise the surface to a level or slightly above the surrounding ground.

Yet another correspondent though "Old Digger's" method very good in its way, but would tell his plan, which happened to be "not new," but the old-fashioned and useful method of sowing peas or any kind of seed on inverted turf, which are first put into hot-bed frames, covering the whole surface, filling in any chinks with a little soil. Notches are then cut out, and the seed dropped

in and covered with rich soil. Of course any seed so sown and afterwards carefully transplanted, having plenty of roots among the turf, would not, like the first mentioned, know they had been moved at all.

Reader; either of these methods, or "one of your own," will help you to an early crop, provided you set earnestly to work to secure it; if not, then you may rest assured that he who does so will beat you in the race.—EDGAR SANDERS.

Country Gentleman.

—:o:—

NURSERIES.

Every farmer who intends to raise fruit, should appropriate a small portion of his soil to nursery purposes, and in which young trees may be grown to be afterwards transplanted and grafted. Plums, apples, pears, peaches, cherries, &c., may be much more easily and cheaply produced in this, than in any other way, and the care of watching and tending them will be a pleasure, when the work has been once commenced. In this way choice and reliable trees may be obtained, and such as will not disappoint the expectations of the grower by turning out something different from what he had supposed them to be, as is too often the case where trees are purchased.

"Many kinds of trees," says a writer on terraculture, "are so short-lived, particularly in our climate, that unless some efforts are made to ensure a supply, and renew them as they fail by age or other causes, we must for the greater part of the time be destitute of some of the most desirable fruits. We may mention, for the convenience of those who in moving or travelling from one part of the country to another, would be glad to secure a supply of some favorite fruit for propagation, that if the twigs on which good buds are found are cut, (and the longer the better) and immediately deprived of their leaves by cutting the leaf stem with a pair of scissors or a sharp knife, and wrapped in wet moss or even wet cloths, they may be preserved for many days, or weeks, in a fresh state, so as scarcely to fail of growing where skilfully inserted."

By sowing fruit seeds in autumn, or by collecting stocks that may be found in the pastures, and transplanting them, a handsome, thrifty nursery may soon be started at the most trifling expense, and one from which the cultivator may draw his future supplies with a certainty that will be gratifying. Stocks collected from pastures usually have excellent roots, and when grafted and well tended, soon throw up a fine, thrifty tree. Two or three square rods of ground will frequently supply all the wants of the farm in trees.

We have seen a handsome and productive orchard produced by grafting trees in the pasture; they were irregular, to be sure, but in pasture land that was of no consequence. The earth was made loose about their stems and then bushes cut and thrown around them in such quantities as to keep

the cattle from rubbing against their trunks. These bushes gradually decayed and formed a rich mould about the trees, while at the same time they served to keep the ground mellow.

We ought not to depend too much upon others for anything that is constantly wanted on the farm.

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HOW TO RAISE ONIONS.

MR. EDITOR:—I find in your valuable paper of last week an inquiry by a subscriber how to raise *onions*? I have had some fifteen years experience in raising vegetables. My way to raise onions, is, first to manure with rotten manure, and plow as early in the month of April as the ground will admit; pulverize the top of the ground by raking with common hay rakes, so that it shall be perfectly free from lumps, and then sow the seed with the seed-sower; no matter if the ground freezes, or if the snow falls, it will not injure the seed. I recollect once of having my onions up so that they could be distinctly seen in the drills at a distance, and had a fall of snow of four or five inches deep upon them, without doing the least injury. The great secret is the sowing early in the season and pulverizing the ground thoroughly before sowing. I never have had any trouble with onions in bottoming.

The old rule is, that the tops should begin to wilt or die before dog-days. My yield is from six hundred to eight hundred bushels to the acre. I think they are a sure and profitable crop. I sow them in drills fourteen inches apart.

HOLLIS CHAFFIN.

Providence, R. I., Feb. 3d, 1857.

New England Farmer.

—:o:—

LORD WESTERN'S ESSEX BREED.

The Essex pigs, have been indebted for their improvement to crosses with the foreign breeds, and especially the Neapolitan, and with the Berkshire swine. They are mostly black and white, the head and hinder parts being black, and the back and belly white; they have smaller heads than the Berkshire pigs, and long and thin upright ears, short hair, a fine skin, good hind quarters, and a deep round carcass; they are also small-boned, and the flesh is delicate and well-favored. They produce large litters, but are bad nurses.

The most esteemed Essex breeds are entirely black, and are distinguished by having small teat-like appendages of the skin depending from the under part of the neck, which are commonly termed *wattles*. Some of these animals will attain the weight of 488 lbs., but they are not, according to some breeders, quick fatteners; while others prize them for their rapid growth and aptitude to lay on flesh, as well as for its excellence; it forms small and delicately-flavored pork. Lord Western has been the great improver of the Essex pigs, and his breed is highly esteemed throughout Great Britain.

HINTS TO WORKMEN ON HEALTH

1. Abstain from all spirits and dram drinking. Spirits relax the muscles, diminish the strength of the body, and render men susceptible of disease.

2. Let your food be coarse and plain. Concentrated and highly-seasoned food is, if possible, as bad as liquors.

3. Where (well-filtered) water does not disagree, value the privilege and continue it. Pure water is a far better beverage for the sedentary, and those who take but little exercise, and for those whose labor or exhausted strength do not require stimulants.

4. The quantity (of most things) is always more hurtful than the quality.

5. Take your meals at regular hours always. The human frame is capable of being changed from sickness to perfect health, by a well-regulated system of diet.

6. Avoid everything, however agreeable to the palate, that from experience you find to disagree with you.

7. Make daily ablution the first thing on rising; you will feel stronger and more refreshed from it during the day. I fancy that I hear you say that you have not the time to do so. My answer to you is, rise ten minutes earlier, dip a coarse towel in cold water, wring it out, and rub the whole body over. "Cleanliness is next to godliness."

8. Never quack with your constitution by taking patent medicines: they are offered for every kind of diseases, for many of which they are decidedly prejudicial, producing very often fatal results. If indisposed (and if it is possible to do so), remain quiet, avoid all excitement, and abstain from all meats and fermented liquors for the day. In headache and slight fever, this plan mostly effects a cure. Never use purgatives.

9. Take exercise if you value your health, but proportion it to your strength.

10. Never learn to smoke; snuff tobacco in all its forms, it stunts the growth, when taken at too early an age; it is a great promoter of indolence and laziness; it causes laziness, nervous trembling of the hands, and nervous debility; it has nothing nourishing or stimulating in it, but is merely a narcotic, of which the moral and physical effects upon those who use it are of a very dubious character.

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PROFESSOR LAYCOCK ON DRUNKENNESS.

Last night Dr Laycock, Professor of the Practice of medicine in the University of Edinburgh, delivered his first lecture on this subject, under the auspices of the Edinburgh Total Abstinence Society, in the Queen Street Hall, to a very numerous audience. Adam Black, Esq., M. P., occupied the chair; and among others on the platform, were—Professor Simpson, Bailies Brown Douglas, Blackadder, and Stephenson, Councillor Dickson, Professor Dick, Messrs T. Knox, Renton, &c., &c. The Chairman said they had many eloquent addresses

from both moralists and divines on the dreadful effects of the vice of drunkenness; but upon this occasion they were to have its effects scientifically exhibited to them by an eminent Professor in the University of Edinburgh. He (Mr. B.) admired the results and the labours of this Society. Though he could not himself pretend to be a total abstainer—(hear, hear)—he had, however, all his life been careful to go to excess in nothing. He held that he was not a bad representative of temperance—(cheers)—for he had now reached that time of life which was considered the limit of active life—that was three score and ten—and two years beyond it—(hear hear, and cheers)—and if he did not fall into the error of the Bishop of Grenada, as recorded in the romance of Gil Blas, he flattered himself that, through the favour of Providence, he was better able to attend to the more responsible duties which now lay upon him than he was able to do when he was only half that age. Cheers.) This he attributed in a great measure to temperance, and he would now conclude by asking his friend Professor Laycock to favour them with his address. The lecturer divided his subject into three topics—first, the evils of drunkenness; secondly, its nature and causes; and thirdly, the means available for its abatement. On the first two of these he enlarged at considerable length, noticing the action of alcohol on the faculties of man; how drunkenness induced insanity, and caused idiocy and insanity in the offspring of the drunkard. Exhausting labour of body or mind was a cause of the desire for stimulants. Impure atmosphere at home, labour unduly prolonged in workshops, and an imperfect supply of food, were three heads of the hydra which must be subdued before religion, morality, or temperance could spread among the poorer classes of this country. In Edinburgh their common stairs were so imperfectly ventilated that many of them were but reservoirs of a deleterious atmosphere—so deleterious that a man coming from the country to reside in some houses and rooms must inevitably fall into ill health, if not into habits of drunkenness. The learned Professor was frequently applauded in the course of his lecture. At its conclusion he stated that in his next lecture he would examine what had been done in the way of remedy, and what ought to be done if they would secure an effectual reform of national drunkenness. A vote of thanks was then moved to the Chairman, on the motion of Bailie Brown Douglas, which was warmly responded to, and the meeting separated.

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CHINESE PIG.

This breed forms one of the recognized stock breeds of England. There are two distinct varieties, the *white* and the *black*; both fatten readily, but from their diminutive

size attain no great weight. They are small in limb, round in body, short in the head, wide in the cheek, and high in the chine; covered with very fine bristles growing from an exceedingly thin skin; and not peculiarly symmetrical, for, when fat, the head is so buried in the neck, that little more than the tip of the snout is visible. The pure Chinese hog is too delicate and susceptible of cold ever to become a really profitable animal in this country; it is difficult to rear, and the sows are not good nurses; but one or two judicious crosses have in a manner neutralized it.

This breed will fatten readily, and on a comparatively small quantity of food; and the flesh is exceedingly delicate, but does not make good bacon, and is often too fat and oily to be generally esteemed as pork. They are chiefly kept by those who rear sucking-pigs for the market, as they make excellent roasters at three weeks or a month old. Some authors point out five, some seven varieties of the Chinese breed, but these are doubtless the results of different crosses with our native kinds; among these are black, white, black and white, spotted, and blue and white, or sandy.—Many valuable crosses have been made with these animals; for the prevalent fault of the old English breeds having been coarseness of flesh, unwieldiness of form, and want of aptitude to fatten, an admixture of the Chinese breed has materially corrected these defects. Most of our smaller breeds are more or less indebted to the Asiatic swine for their present compactness of form, the readiness with which they fatten on a small quantity of food, and their early maturity; but these advantages are not considered by some persons as sufficiently great to compensate for the diminution in size, the increased delicacy of the animals, and the decrease of the number in the litters. The best cross is between the Berkshire and the Chinese.

We have been presented with a pair of improved Berkshires, from the pair to which was awarded the first prize at the New York State Fair held at Elmira. If they prove valuable, we shall be able to spare samples for breeding purposes in a few months.—*Canadian Agriculturist*.

CAN LAND BE MADE FERTILE WITHOUT STABLE MANURE?

Mr. Editor:—I wish to improve a piece of high land which is pretty much run out. The soil is of a light, loamy character, plentifully supplied with boulders, sub-soil much the same, except difference in color; lays to the south-east, and with liberal culture gives good crops of corn.

I wish to know if I can avoid the expense of stable manure, which is here worth \$7,50 per cord? (a.)

I have any quantity of meadow muck for the hauling, which will cost 25 or 30 cents per ox load; can this be used with ashes at \$12 per cord, to advantage, and would it prove a substitute for stable manure; if so,

in what proportion should the muck and ashes be used? (b.)

Will muck thrown out in January, be fit for use next spring? (c.)

Should the muck lie in a heap this winter, or would it be better to spread it on a plowed piece and sow the ashes on in the spring and plow all in together? (d.)

Would coal ashes for the hauling one mile, be as good and cheap for this purpose as leached wood ashes, at \$12 a cord delivered? (e.)—*Reading, Mass, 1857.*

W. SPEAR.

REMARKS.—Lands may be made fertile without the aid of stable manure, but the question to be settled is, whether they can be made so *at a profit*. Many persons can make two blades of grass grow where only one grew before, but the operation is quite similar to those in commerce or manufactures, where losses are incurred; although they increase the object sought for, yet it is at so costly a rate that to persist in it would inevitably lead to failure and starvation. Whatever we cultivate must be done at a profit, perhaps not always in the first year, any more than that the manufacturer should find a profit on his outlays of buildings and machinery the first year. If we fell the forest, drain and remove rocks from a piece of land, it would be unreasonable to expect a full return from the first crop.

After land has been reclaimed, cultivated and exhausted, it presents another attitude; the question now will depend upon the kind of land to be wrought, and its location. If light land, such as many of our plains, that may be plowed rapidly with one or two horses, so that there shall not be much tax for travel, it may be cultivated *at a profit*, without adding stable manure. This may be done by sowing with rye, thrashing in the field, reserving the berry and returning the straw at once to the soil by plowing it under; or by plowing under two or three crops of buckwheat when in bloom. By this mode you extract valuable matter from the atmosphere and mingle it with the soil, and by continuing the process very lean and hungry lands may be made prolific *at a profit*! When once brought up they may be easily kept so.

In some such way, we think the piece of land in question may be redeemed and made to pay as it goes. But whether it would be the *most profitable* course, taken in connection with other lands of the farm, we cannot judge.

(a.) See reply to (b.)

(b.) If ten cords of good meadow muck, having been frozen through one winter, finely pulverized, and each cord thoroughly mingled with ten bushels of ashes, where spread upon a plowed acre of your field and then worked in with a cultivator, the corn planted, all weeds and grass kept down, and the ground frequently stirred, whether there were weeds or not, we think you would get, in a favorable season, 30 or 35 bushels of corn. At the average price of northern corn, that

would pay well for all the expenses. This being the case, you could afford to leave all the fodder on the ground, and as soon as the ears were gathered, cut up the stalks, and as the plow advances let a hand follow and lay them lengthwise in the furrow to be entirely covered up the next time the plow comes round. Here you have quite a liberal manuring of prime vegetable matter. The next year, if the land is of a sandy quality, apply the same amount of muck and ashes again; but if not quite sandy, add what the muck would cost in wet bone-dust, and work it in with the harrow.

We have found great benefit, by a process similar to this, on much such land as you describe.

(c. d.) Muck thrown out in autumn should not be in heaps so large as to prevent its freezing solid. When the ashes are mingled with it all lumps should be broken and thrown out.

(e.) We think not—the value of coal ashes, however, has not been satisfactorily tested.

Will you experiment upon these suggestions, and give us the result, especially as regards the coal ashes, tried by the side of the leached wood ashes, all other things being equal?—*N. E. Farmer.*

MAPLE SUGAR.—By the census of 1850 the total product of maple sugar in the United States was 34,253,436 pounds, valued at \$1,712,671—more than one-twelfth the value of the cane sugar product. This valuation, however, is at the rate of five cents a pound, which is only about one-half the average market price. The quantity of molasses manufactured is also very considerable. The two large maple growing States are New York and Vermont, which produced upwards of ten and a quarter and six and a quarter million pounds respectively. The next largest are Ohio, Indiana, Michigan, Pennsylvania, and Virginia. All the States, with the exception of Delaware, Florida, Mississippi, and Texas, are producers to a greater or less extent.

From present indications, the quantity of maple sugar and molasses made this year will be greater than ever before. The high price of sugar, of all grades, have stimulated its manufacture, and there seems to be a fair prospect that the product, this year, will be upwards of fifty millions pounds. At present prices (12 cents a pound and \$1 a gallon) the product will be worth not less than \$7,000,000.

RHUBARB, OR PIE PLANT.—Rhubarb may be brought forward very early in spring, in several ways. It is the practice of some to place an old barrel or box (with the bottom

and head out) over one or more plants, early in April, and to surround the whole with fresh horse manure, a foot in depth. This stimulates the plant into growth, and the barrel shading the leaves, causes them to shoot up long and rapidly. The stalks are more tender and less acid than when grown in the open air. An amateur of our acquaintance takes up a few roots of rhubarb every fall, and placing them in tubs of dirt, sets them into his cellar to enjoy a nap of about three months, and then brings them into a warm closet behind his fire place. Opening the window blinds in this closet, and giving his plants a free watering, they soon begin to grow, and furnish his family with a healthful and delicious desert, while yet the garden without is covered with snow. We have known others to bring forward rhubarb in green houses and other warm buildings. Others, again, set out several plants near the stable yard, and in the fall place barrels over them, having holes in the top, and cover the whole with leaves or coarse litter. In the latter part of February, they remove the litter, and surround the barrels with warm manure, a foot in depth, and add to the same from week to week, as the leaves extend. The manure warms the roots, and gives almost a summer atmosphere within the barrel, so that in about a month's time the barrel is full of leaves finely blanched, tender and crisp, which can be used until the other plants have come forward in the garden. The market gardener who forces his plants in this way is sure of a recompense for his trouble. In New York market alone, many thousand dollars worth are sold every spring. But if any man has not the time or means to pursue either of the above methods, let him set his plants in a sunny aspect, and in the fall cover a portion of them with six or eight inches of black peat, earth or warm litter, and he will hasten their growth in spring a week earlier than those unprotected.

As to the best sorts of rhubarb, we must say, that, as a general rule, the best are those best cultivated. The *Giants* and *Mammoths* owe a debt to the manure heap for some of their fair proportions. There is, however, a choice, and these are among the best:—

Tobolsk: Scarlet stalks, small, but very early.

Myatt's Victoria: Large, red stalks, with a rich, fruitlike flavour, and early.

Giant: Large, green stalks; later than the preceding; a great favorite in England.

Mammoth: A seedling from *Giant*, stalks sometimes four feet long; highly esteemed about Philadelphia, where it originated.

Downing's Colossal: A large and very excellent variety; stalks often the size of a man's wrist.

Myatt's Linnæus: The least acid of all, and that not an unimportant matter, considering the present price of sugar.

Cahoon's Seedling: One of the newest varieties, and on some accounts the best.

In conclusion, it may be proper, to add that the leaf of the rhubarb contains oxalic acid, and is therefore poisonous. The root is an active purgative. The leaf-stalk only should be eaten.—*Witness.*

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COMPOSITION OF THE WATER OF LAND DRAINAGE.—The composition of the water which flows from land by drains, bears intimately on the question of through drainage, and on the application of manure. It was ear-

ly observed in carse districts, that upon the introduction of furrow draining, those fields which were drained did not produce the bean crop with the same healthy luxuriance as previously. Some denied this, but the more shrewd and observant farmers appeared at the time to satisfy themselves as to the correctness of the opinion. It is now shown by Professor Way, that the drainage water does convey away from the soil a considerable portion of the manurial elements. This result might have been anticipated, knowing that the action of water removes substances which are in a soluble state; and on soils, surcharged with water, when this water escapes by drains, it consequently conveys away a portion of the constituents of the plants. When rain water escapes by the surface, no doubt a portion of these constituents is also removed; but it can only be what is near the surface, whereas by drains, the whole soil, to the depth of 30 inches or more, is subjected, by the percolation of the water towards the drains, to the partial washing away of the manurial elements. In previous papers, Professor Way has shown that argillaceous soils have a remarkable power of retaining ammonia, and such soils, doubtless, also possess a power of retention of all manurial elements greater than sandy, calcareous, and peaty soils. It is thus evident that the exhaustion of a soil by drainage, will vary according to the composition of the soil and subsoil, and the depth and number of the lines of drains; and further, that while thorough drainage admits of a higher average produce from the soil, it requires a more liberal application of manures to meet the waste by the drains, apart from the portion removed by the crops.

Another practical feature is presented, bearing closely upon the mode of applying manures. It is clearly an economical practice to apply manures in small quantities corresponding to the wants of the particular crop, rather than to make one application for the whole crops of the rotation; otherwise a considerable portion is wasted from escaping by the drains when in a soluble state. This is in accordance with more advanced practice. Besides the question of applying manure in small doses it will also be apparent that, to avoid loss, manures should be applied so that the plant may obtain the fertilising constituents as speedily as possible, and that the smallest amount may be washed away by rain water as it percolates through the soil. And further, that all manures possessing a considerable degree of solubility, such as nitrate of soda, sulphate of ammonia, and the nitrogen of Peruvian guano, should be applied successively in small quantities to the crop at the periods when it is in vigorous growth, so that the growing plants may readily take up their food as it becomes soluble. This investigation of Professor Way's is thus so far valuable, as it should influence practice both in the application of manure as to quantity and periods of application, and consequently should economise the use of such manures as are in a highly concentrated and soluble state. It also bears some relation to the question of irrigating land by the application of drainage water, as it is shown that such water is manurially valuable from the percentage of nitric acid and ammonia contained in it.

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SAVING OF MANURE IN WINTER.—Attend to

the accumulation of manure by every possible means; leaving it, as it accumulates, strewn about, exposed to rain and drying winds, causes much waste of this valuable commodity; let it, therefore, be gathered as it is made, and stored in good-sized heaps, well covered and protected by dry earth, bog-stuff, or fresh litter, to preserve its most valuable components from being washed out by the rains; remove all road-scrappings, parings of banks, ditches, and the accumulation of rich earth on the headlands, to the compost heaps, mixing them with fresh lime, sea or rich pit sand, making them up into pyramidal heaps, to throw off the rain.

Compost-heaps.—The material for making compost-heaps may be brought forward at any spare time throughout the year; but as this is closely allied to the subject of the preceding paragraph, we shall now refer to it. The best material for mixing with farm-yard manure is peat or bog-earth; old turf fences also answer well; but wherever bog-stuff can be got, advantage ought to be taken of it to form compost-heaps, and thus to increase the manure store. The proper proportions are two-thirds of bog-earth to one-third of farm-yard dung. Let the bottom of the heap be bog-earth; upon this put a layer of manure, then another of earth, and so on until the heap is four or five feet high, covering all with earth. In a short time the mass will begin to heat, and after it has done so it may be turned, and the materials carefully mixed, finishing, as at first, with a layer of earth. By saturating the heap occasionally with liquid manure from the tank, its value will be greatly increased. If a heap of earth be laid down convenient to the house, and all house-slops—such as soap-suds, &c.—poured regularly over it, a mass of valuable manure will soon be obtained.

Liquid-manure Tanks.—On small farms a sufficiently large tank may be made of a tight butt, containing 150 gallons, or, if one be not sufficient, two of these butts may be set close to each other. Let a hole be dug two and a half feet deeper than the depth of the cask, and at least 18 inches wider: the bottom of the hole must be laid with a layer of properly-prepared puddled clay, ten or twelve inches thick; upon this set the cask, and then have puddle closely rammed in around the sides; the upper edge of the cask will then be eighteen or twenty inches below the surface, a sufficient depth to allow room for a covered drain for conveying the urine from the gutter behind the cows, a rough but strong covering of wooden slabs being laid over the top of the cask. A tank may be thus constructed which will last for several years, and contain all the liquid manure likely to be preserved at one time on a small farm. In the case of more extensive establishments, especially where the system of house-feeding is closely followed, larger tanks will be required, the sides of which will be formed of brick or stones set in mortar and joined with cement, and carefully puddled behind each course; the sole may be either pavement or bricks, laid on puddle, and the best cover is an arch; the width of the tank should not exceed six feet, for, if much wider, the arched cover will be expensive; as a regular part of the home-stead, a tank should never be omitted; for there is no part of the establishment which will repay the outlay sooner.

Let the liquid manure be closely attended to, and husbanded; empty the tanks fre-

quently, top-dressing the meadows and grass lands with it, or absorb it with rich earth, ashes, peat charcoal, &c.; return that which oozes from the manure-heaps on them again.

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RECIPE FOR CURING HAMS.—As soon as the hog is cold enough to be cut up, take the two hams, and cut out the round bone, so as to have the ham not too thick, rub them well with common salt, and leave them in a large pan for three days. When the salt has drawn out all the blood, throw the brine away, and proceed as follows:

Have two hams, of about eighteen pounds each, take one pound of moist sugar, one pound of common salt, two ounces of salt-petre, then put them into a vessel large enough to contain them in the liquor, remembering always to keep the salt over them; after they have been in this state three days, throw over them a bottle of the best vinegar. One month is requisite for the cure of them; during that period, they must be turned often in the brine; when you take them out, drain them well; powder them with some coarse flour, and hang them in a dry place. The same brine can serve again, observing that you must not put so much salt on the next hams that you pickle. This method has been tried and pronounced far better than the Westphalia. [Homestead.

PAPER FROM HOPS.—The use of the hop plant in the manufacture of paper is now proposed. Immediately after being cut, the stock or vine is tied up in bundles, if possible the whole length of the plant, and these bundles are immersed in water pits, similar to those employed in operating on flax and hemp, or in a running stream, and are kept there until a slight fermentation ensues, sufficiently to partially detach the fibre, the pithy and woody portions of the stalk. The separation may be affected by hand, or by passing the stalk between rollers with or without teeth, the woody or pithy matter being picked out or washed out afterwards. After separation, the fibre may be again steamed, and rolled, if required to be very fine, but care is necessary to keep the fibre wet until it is cleaned from gummy and resinous matters, by repeated steaming and washing. The fibre will now be in the condition of half stuff, and fit, after further bleaching, for the manufacture of paper, pasteboard, etc.

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VETERINARY.—A knowledge of the signs of health is an almost indispensable requisite to the horse-owner; for the proverb "a stitch in time save nine," though a very old one, is nevertheless worth remembering, since the life of many a valuable animal has been saved by the administration of some simple remedy in the commencement of disease.

The outward signs of health may be described in a few words. When the horse eats a moderate allowance of hay and corn with good but not ravenous appetite; when he drinks a moderate allowance of water; when his coat lies smooth, and feels soft and smooth to the hand; and when his exercise does not procure faintness, but rather stimulates his appetite—then we may fairly consider him to be in good health. But there are exceptions to all rules, as I have known both gross and bad feeders do their work well; but still there is a difference in the appearance of the animal.

Horses in a state of domestication are necessarily more liable to disease than those in

a state of nature; and this may be ascribed to their change of air, exercise, and grooming. Look merely at the change of air. The horse stands in his stall, exposed to draughts, the air of varied temperatures, and, in addition, is incessantly exposed to the ammoniacal vapors arising from the drains, besides his being in a confined space, most frequently a stall.

Horses in a state of nature, though perhaps not liable to many of the diseases of artificial existence, are in a much less vigorous condition at some seasons of the year than at others, and more especially during the changing of the coat.

It is therefore necessary in the management of horses, to produce a state as conformable to their habits when in a natural state as possible. Thus, for example, always to keep water before them; and, though it may appear curious, you will find the horse drinks less than when it is supplied to him at stated intervals. The ventilation of a stable, however, is the most important point (at the present time I shall not go into a particular description of the mode of ventilating stables.)

But a few years ago, the horse was shut up, and hardly a breath of air allowed to come into the stables; and that was considered conducive to health; now, fortunately (perhaps unfortunately for the veterinary surgeon), this is altered in the majority of stables, the place being kept cool; and, consequently, horses suffer much less than they did formerly.

Thus, for instance, if you are one of a number of persons in a small room, inhaling the same atmosphere, you feel after a time faint, suffer from headache, &c.; and this is precisely what occurs to the horse when shut up with others. The blood cannot be supplied with oxygen, the strength fails, the brain becomes overloaded, and the natural functions of the body become deranged.

Feeding is a matter on which various opinions have been expressed; but three or four feeds of corn a day, with a few beans, and a moderate allowance of hay, is quite sufficient for a horse doing moderate London work

The usual allowance for a horse is—

Corn, 1 peck per day, which makes three or four feeds;

Hay, 1 1-2 trusses a week;

Straw, 2 trusses a week;

And a warm bran mash twice a week, in place of a feed of corn.

Grooming is of the greatest consequence; for, by removing the dirt from the skin, you allow the animal to perspire freely, thus saving the kidneys from unnecessary labor. Indeed, my own horses are washed all over immediately they come from work, and then rubbed dry. This I have found to refresh them much, and we know how pleasant and refreshing to ourselves a good wash or bath is, after much exercise or excitement.

Indeed, good food, pure air, and cleanliness, are the great secrets of health, not only to the horse, but to all the inhabitants of the universe.—*London (Eng.) Field.*

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RISE IN VALUE OF PERUVIAN GUANO.—Last week Messrs Gibbs and Sons intimated to their correspondents an advance in the price of guano to the extent of £1 per ton,—the terms, being now £13 per ton for 30 tons and upwards, £14, 5s for 1 up to 30 tons—all the other conditions of sale remaining unaltered. This announcement has taken the trade by

surprise, and many merchants will be mulcted of considerable sums, as extensive contracts had been entered into with farmers to deliver Peruvian guano at little over £12 a-ton. The discount of 2½ per cent., allowed by the importers, mitigates the loss; but considerable dissatisfaction exists as to the unusual proceedings of the importers in virtually making two separate advances in the same season—the first putting merchants off their guard as to the probability of a second change in value. On the 17th instant, we stated that "while Peruvian guano was obtainable in London at £12, direct cargoes into Leith, and, we presume, other Scottish ports, had not been arranged. Some merchants are anticipating a further rise, while others suppose that there is an intention of continuing the arrivals, into London, and perhaps Liverpool." Those purchases made not subject to rise, will probably lead to several misunderstandings. Besides, farmers will in many instances have recourse to other manures, and the consumptive demand of guano this spring will receive a check. A demand for guano from the continent is assigned as a reason for the advance; but taking the present value of wheat, there is less likelihood of this demand progressing in amount in the corn countries of Europe, while in America, the demand has never been very active, and the quantity imported into the States has generally been beyond the consumptive demand. Indeed, a portion of the surplus supply was in one season reshipped to England.

This proceeding on the part of the importers of Peruvian guano, in making an advance in the price of guano about £2 in one season, renders it an imperative duty on the part of the Government to institute more energetic measures to search for guano islands, and especially to make immediately available the guano deposits near Aden, not overlooking the deposits of nitrate in Pernambuco; otherwise a further advance in the importers' price of Peruvian guano may be anticipated, as at present there is no check upon the monopoly, and nitrous manures are essential to carry out our present custom of cultivation.

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Cabbage, Turnips and other Root Crops.

The quantity per acre of cabbages, turnips, and roots that under favorable circumstances can be grown upon an acre of land, is truly astonishing. The amount and value of green food for farm stock, that can be raised on an acre of ground, we think is not well understood by a large majority of our farmers. It is generally thought that our climate, from its liability to drought (in summer and autumn,) is not so favorable to the production of turnips, root crops, &c., as the more humid climate of England, Scotland and Ireland. This, to some extent may be true; but still we have hundreds of well authenticated statements, showing most clearly that the several kinds of vegetables usually grown for autumn and winter feeding of cows and other farm stock, can generally, by good culture, be profitably grown in most sections of our country. But in order to do this, the due preparation of the ground, the proper season of sowing the seed, and the after-culture, should all be well understood and attended to in due season,

Farmers, it is said, have strong prejudices, and are slow to adopt new systems of culture,

and perhaps this may partly account for the little attention that is usually paid by them to the growing of cabbage, turnips, and other root crops for their stock. But all readily admit that the health, thrift and well-being of our horses, sheep and cattle, would be greatly promoted by a regular daily allowance of green succulent food, in connection with the dry forage they are usually kept upon through our long cold winters. And no less true is it, that the quantity and quality of milk, cream and butter of an herd of cows, would be greatly augmented by a good supply of succulent food, such as cabbage, rape, green corn fodder, (or perhaps better, Chinese sugar cane) during the usually dry autumnal months.

In England, Scotland and Ireland, the cultivation of green crops—that is cabbage, rape, turnips, roots, &c., enters very largely into their systems of farming, and the quantity raised is enormous. At the annual winter show of the Royal Dublin Society, holden in Dublin 2d week of Dec., premiums were awarded for the best crops of turnips, wurzels, beets, carrots, parsnips, kohl rabi, cabbages, and various other crops. But here we only give the weight per acre of the above named. It is proper here to say that the English or statute acre contains 4,840 square yards—the Irish acre contains 7,840 square yards.

Swedish turnips, first prize to Dr. Radcliff—40 tons farm-yard manure per acre—produce 65 tons—seed sown last week in May. The second prize awarded for 47 tons per acre—26 tons farm-yard manure per acre—seed sown 3d of June. Premiums for wurzels—three several crops, two of 80 tons each per Irish acre, and for one of fifty-five tons—farm-yard manure only used. Prize for 64 tons sugar beet—48 ton farm-yard manure per acre. Three prizes for carrots, viz: for 36, 35 and 26 tons per acre. White carrots 45 tons 7 cwt.—45 and 33 tons per acre.

Parsnips 30 tons. Kohl-rabi—drills 28 inches apart—40 tons manure—sown in May last, 40 tons and 34 tons per acre. Cabbage, two prizes for 80 and 60 tons per acre. It is worthy of note that in all these trials, none other than farm-yard manure was used.

It might not be good policy for American farmers to go so largely into the culture of green crops as is done in the countries above named. One reason is, our winters requiring they should, like potatoes, be stored beyond the reach of frost. This would make it inconvenient storing very large quantities, but almost every farmer could so arrange as to secure a few hundred bushels for winter feeding to his stock. Cabbages and rape may be raised so as to be fed to milch cows from early in July till November; and large quantities can readily be saved for spring use by opening trenches with a plow, and burying them in the trench, "head downward." We could cite from the Reports and Transactions of Agricultural Societies, hundreds of statements proving beyond all cavil, the advantage and profit of growing cabbages, turnips, beets, carrots, parsnips and wurzels, for stock feeding.

We have alluded to this subject at this time, for the purpose of calling the attention of farmers to it at this comparative leisure season of the year. It is a good time to lay their plans, procure seeds, &c., for the coming spring.

Suggestions about Stables.

In a previous article on the subject of the construction of stables we submitted a few suggestions, intended to aid those who feel desirous of doing everything possible for the comfort of their horses, in the work of planning good stables when about to build new ones, or to reconstruct old one.

As several other suggestions, which were present to our mind while writing our former article, were omitted on account of our limited space, we return to the subject, and commence with remarking that provision should always be made, in some way or other, for a very free and a sufficient ventilation in all stables. There are but few stables which do not emit a most offensive or disagreeable odor, when the doors are first opened in a morning. A horse shut up in such an atmosphere for a considerable share of every twenty-four hours, can neither be as comfortable nor as healthy as he would be if provision had been made to secure a purer supply of air. The whole of the blood and humors of his system must be contaminated with the impurities of the atmosphere which he is obliged to inhale and imbibe through his lungs. This poisonous matter cannot be taken into the system for any great length of time without producing some disease, or, at least, some depression of strength and spirits and a predisposition and readiness to be affected with actual disease. May not the dullness of eye and want of sprightliness, which are sometimes observed in horses on first taking them out of the stable, be owing in a great measure to the impure atmosphere which they have been breathing during a long night or a longer period of confinement in their stable? And may not the languor and logginess, the want of strength and vigor, which are quite common with some horses in the spring, be owing in a great degree to their being shut up in close, ill-ventilated, and impure stables during the winter months? However this may be, it is well ascertained that inflammation and weakness of the eyes, as well as coughs, colds, influenzas, and inflammations of the lungs, are often caused by confinement in the foul and unwholesome atmosphere of some much-neglected and ill-constructed stables. When horses, obliged to breathe such an atmosphere during winter, come to be exposed, as they naturally must be, to sudden changes of temperature in the spring, it need not be wondered at that they should readily take cold, and be attacked with serious and even fatal inflammations of the lungs.

Notwithstanding the truth and obviousness of these facts and considerations, horses are often shut up for whole days and nights in an atmosphere which man could not bear to breathe even one hour.

Two of the simplest contrivances which we have ever seen, to remedy this closeness and impurity of stables, were adopted by one who became sensible of the injury and discomfort inflicted on his horses by the use of stables open to these objections. The first consisted in opening several windows in the walls of the stable. These being hung, could be opened and shut more or less according to the weather. Another of these contrivances was the substitution of a door divided into an upper and lower half in the place of a whole undivided door. As the door faced to the south, the upper half could be left open in almost all sorts of weather, save the most

stormy or severely cold. By these means and the insertion of a sliding grating in the wall opposite, above the heads of the horses, a great improvement was effected in one stable; and by similar contrivances an improvement might be brought about in many others.

In building new stables, however, provisions should be made of a more scientific and efficient kind. The object may be accomplished in various ways; but one of the best is to admit fresh air by means of a sliding grating at the back of each stall, and to have a hopper in the ceiling, with a trunk up to the roof, to allow the escape of heated and impure air.

Training Horses to Harness.

Although I should be one of the very last to recommend any private person that could employ his time better to usurp the place of colt-breaker or breakman, still there may be circumstances under which it would be advisable for a man to perform himself the duty either or both. But before he does so, let him ask himself the following questions, and trust to his good sense for answering them. Does he possess great command of temper, inexhaustible patience, much presence of mind, and strong nerves. Unless his conscience answers these queries satisfactorily, let him not attempt a business that requires all these.

With such indispensable attributes and proper appliances, I may, perhaps, give him some hints that may enable him to train his horse to harness without accident to the animal, himself, or others.

We will suppose a gentleman in the country has a horse that in all that has been required of him has shown gentleness and docility; he wishes to break him to harness, and draws a natural inference that, from his placidity on all occasions, he goes quietly. The probability is that, with gentle usage, he will do so; but it by no means amounts to a certainty that this will be the case; yet a great deal depends on the care and judgment shown on first putting him in. We are to recollect the horse has (in a general way) winkers on, consequently cannot see behind him. If a man will only judge by his own feelings, he will recollect how surprised, and in some cases alarmed, he feels on any one or anything touching him behind. So feels the horse. We may say, if he rushes forward or strikes out, "it was only the end of the trace," or anything else; how is the horse to know this? A man standing in the street would turn as quickly round if a harmless sheep touched him, as if a tiger or a man with a stiletto in his hand did the same thing. We are cautioned by men conversant with the breaking of horses to be careful lest we alarm them—perhaps surprise would be a more proper term. The horse is not, in the full sense of the word, alarmed or frightened by a shaft accidentally touching him, but he is surprised. This probably leads to what in the end causes him a fright he will never forget; for, let people think as they may, direct fright is an event that is never erased from the horse's memory. A man, we will say, encounters an object in the dark; he either grabbles with it or strikes at it. The horse does the latter, for he is virtually in the dark as to what approaches him from behind. It may be said that a man, on being touched behind, does not immediately strike behind him before he turns to see what surprises him; but be it borne in mind the man does

not wear blinkers, so he turns to see the cause of that surprise. He has not a gig or a break behind him to prevent his doing this; and, above all, he has reason.

In all things connected with horses, if we wish to succeed, time is indispensably necessary: whatever is done with them in a hurry is done badly. All we teach him is a work of time, and, having taught him, the getting him in condition to perform what we wish is a work of time also. "Festina lente" would be an appropriate motto over the stable-door of a trainer of racehorses or a breaker of colts.

Horses, whether young or old, if they are averse to going in harness, show it in one or more of the following ways; they either refuse to advance—that is, face the collar—kick, rear, run back, lie down, or attempt to run away. I have had some to deal with who have run the changes on these *agremens* in succession; but I must admit it has been when circumstances have rendered a horse being tried in harness, in common phrase, "there and then necessary." With one left to my own discretion I never found this occur in the same objectionable degree. My method may, at first, appear a slow one, but it will be found the quickest in the end; that is, if a man wishes a horse so trained to harness as not to have the same work to go over again in a week or two, from finding he had kicked a gig to pieces or run away with it and its driver both together, or indeed sometimes separately.

We have supposed a gentleman in the country wishing to accustom his horse to harness. If he has it not, let him borrow or hire a very light jockey cart, on springs. I say on springs, as such run the most level, and without the noise and jolting of those without such advantage. Before this is wanted, let the harness be quietly put on the horse in the stable; let it remain on while he is fed, watered, and, to a certain degree, dressed in fact all day; let him be quietly led out in it; and in a couple of days he will take no more notice of it than of his customary clothing. When perfectly reconciled to the trappings, fix a couple of cords, or a pair of driving-reins, to the end of the traces; give to a man to hold while the horse is led on. Now, when this is done the man is apt to throw the traces about, under the idea of accustoming the animal to feel them flapping against his sides and thighs; but in nine cases in ten the man does not accustom the horse to feel this; he merely surprises him by feeling a something striking against those parts to which he is unaccustomed: the horse jumps forward, right and left, as he feels the trace touch him—the effect of being in a hurry, and wanting to bring that about in a few minutes that might perhaps occupy a morning or two to accomplish.

We will suppose a horse to have become used to the traces and the pressure of the collar, from the man gradually increasing his tension on the traces, till the horse will freely draw the man forward, though exerting all his strength in resisting it. A horse having learned to do all this willingly, and without hesitation or alarm, is half broke. But do not leave any one deceive himself, or rather be deceived by appearances; let him act with as much caution in putting the horse between the shafts as if he had shown evident symptoms of resistance. I grant the horse may have no disposition to vice; but

he is as susceptible of alarm as one who has, perhaps more so; and be it remembered that a frightened horse is often worse to deal with than a vicious one. We will suppose him to have been got quietly between the shafts, traces fixed, kicking-strap and belly-band fastened, of course, the precaution must be taken of having a flat-headed hemp halter under the bridle. Let him stand—the man at his head encouraging him, and another at his side doing the same thing. He may, probably, be a little fidgetty; if, in doing so, he brings himself in contact with the shaft, he will not mind that mere than bringing himself in contact with the standing of his stall, a wall, or gate. But it would be found a very different thing if the shaft was brought in contact with him; he would feel that as the approach of some extraneous object that he knows not of, and, not being able to see what it is, would probably kick at it; the shoving himself against an opposing object, he feels to be his own act; and he is not alarmed by doing so. His being restless is rather a favourable symptom. In all probability, he will be inclined shortly to move forward; on no account let any audible click of the tongue be used. The moment he voluntarily attempts to move, let him do so, in any direction he may be disposed (that is if you have space to admit of it). His fidgetting does not matter a farthing, he has voluntarily moved in some direction. You will have little trouble with a horse acting thus; all that will be wanting is a man gently leading him about for a day or two—a driver getting quietly into the cart, gig, or break, the man still leading him; he may thus be coaxed into a trot by the man by his side running on, and encouraging the horse to follow. He then insidiously slips away, fastens the shank of the halter to the harness, and quietly seats himself by the driver. This horse is broke—all he wants is practice: the time occupied has only been four or five days. He has been gradually brought to a knowledge of his business: so far as not feeling alarm, or having found it irksome to him.

It is quite possible a horse might be at once put in harness, and go quietly; but the next time he was put in he might kick the vehicle to pieces. He would not, as in the first case, have been taught; he had merely at a risk been once driven.

If I find such hints as experience enables me to offer on this subject meet approbation, I may probably give others on the subject.—HARRY HIEOVER, in *Field*.

APPLYING HEN MANURE.—Manufacture the hen manure into several times its bulk of compost; place it in a long pile, ridge or bed, and mix it well by plowing and harrowing it intimately together, and then apply it to the land. If all is applied in the hill, there would be enough probably for four or five acres; and if the compost is one-fifth hen manure, it would require nearly or about a pint of the mixture for each hill to go over this surface of land, the hills being three and a half feet apart each way. If the corn could be planted in drills or furrows, a good deal of labor might be saved in making the compost as follows: Prepare, plow and harrow the land; plow a moderate furrow where each drill of corn is to be planted; then strew the clear hen manure along the furrow at the rate of one pint to a rod, which would make it cover three or four acres, or it might be applied heavier in drills,

or one pint to ten feet, covering two acres. Then cut a green pole two or three inches in diameter, with plenty of side branches cut with projecting stumps; drag this by a horse or horses along the furrow, and it will grind and mix the manure into the soil, and form a compost already applied, although not quite so good as when the ingredients have lain together for a few weeks. It is important, therefore, that through pulverization and mixture be effected.

INDIAN CORN—LARGE CROPS.—The Caledonia Co., (Vermont) Ag., Society, at its winter meeting, awarded three premiums on Indian Corn—the first for 93 bushels per acre—the second, 81 bushels, 26 quarts, and the third, 80 bushels per acre. These are good crops for any country.

Culture of Indian Corn for Fodder.

MESSRS. TUCKER & SON—Some time since I promised to give my experience in raising green corn, or corn fodder as it is called, for the purpose of soiling stock. Having had good success in the matter for a number of years, I think that I can speak advisedly.

During the past season we planted sixteen bushels of the Southern White Flat, under various circumstances and conditions of land, &c. Without going into the details of this crop, perhaps it would serve the purpose better to state my conclusions.

To Subdue a Stiff Sod.—Prepare in the fall, by heavy manuring with compost, and break up with common plow, or what is better with the Michigan. If turned with common plow, harrow well in spring as soon as there may be four or five inches of frost out of the surface. The bottom frost holds the furrows all in their places. Harrow again in May or at planting time, and if about an inch of fine surface is obtained, sow broadcast and harrow in, from two to three bushels per acre, according to the quantity of manure used. Should the Michigan plow be the one that was used to turn the land, the early spring harrowing would be unnecessary.

If it should be difficult to obtain a smooth surface, then plant the field in hills, about two feet apart each way. Mark out with a wheel across the furrows only one way, or leave an uncovered row to drop the next by; from eight to twelve kernels in each hill is the best quantity of seed.

For a Late Crop.—Manure and break up as before, after taking off rather early a crop of hay. Plant in hills without harrowing, by rowing with every second furrow-lap; make a place for the seed with the heel, and let a hand follow with a hoe to cover. I have prepared land for planting at this season, that was so tough and clayey that covering dirt had to be brought from other places, yet the result would be a remarkably fine crop. I seldom pay any attention to a sod crop after planting.

Old Field Crop.—Bring the land to an even surface, make the manure fine, spread it on, and bush it down well—plow once fine and deep—plant in wide drills—one or two hoeings for after culture. Put in seed according to the quality or quantity of manure, from two to four bushels to the acre.

Orchard Crops.—Manure the land as for field crop—sow the seed broadcast, and plow all in together with one horse and light plow.

Preparing a Crop for Winter Use.—Having been successful in harvesting from ten to fifteen tons when dry, annually, I give

my conclusions. As the tassels fairly begin to show themselves, cut with bush scythes; after two days spread; in two days more, turn it; in two more days commence pitching together into winrows, after which pitch and cart same as hay. Put on one peck of salt to a ton, at various times while mowing away.

Another method is to cut with corn knives, lay it straight and even over the ground; in two or three days set or stand it up to each side of long poles placed for the purpose; cap over the tops with a few bundles of the same. Half of an ox-load can be put up to a forty-foot pole placed horizontally, according to the height of the corn. It will cure most admirably, with but very little cost or trouble.

I have practiced planting on the surface for years with good success. Supposing that the seed requires as fine and as soft a bed as the covering may be, therefore the bush-drag is the last implement that is used with a team before planting, for corn, beans, peas, potatoes, &c. A light wheel about three feet diameter, trundled like a wheelbarrow, will do the marking out most expeditiously.

I think that the profits of a fruit cellar were mentioned in a former letter. I will now only say that the same is well packed with as good Baldwins as New-England raises. Four and a half dollars per barrel having been refused, they still remain in first hands. ISAIAH WHITNEY. *Harvard, Mass.*

On the Vitality of Grass Seed.

The question is often asked, and many times by those who are esteemed the wisest and best of farmers—"Is grass seed and clover seed, which is more than one, two, or three years old, just as good as seed only one year old?"

By many it is believed that there is really no difference in seed, whether it is one or four years old; and it would seem that when proper care is exercised in securing such seed, not suffering it to be injured by storms, nor to heat in the mow before it is cleaned from the chaff, it would be good seed, and vegetate well even when it is a few years old. We have always thought, until recently, that old seed was as good as new, and have many times sown clover and timothy seed which was more than a year old, but have noticed almost invariably, that such seed did not seem to "take" well; and, not thinking that the seed was not good, we have attributed such failure to the unfavorable condition of the soil—that it was covered too deep, or not covered at all with earth. But I have always had good success in seeding land, in both fall and winter, when I have used fresh seed. I have observed many times that those farmers who contend that old seed is just as good as new, and who are in the habit of sowing old seed, frequently complain that their grass seed does not seem to take well.

As every farmer should, if possible, raise his own grass seed, we have been accustomed every year to select some of the best portions of our meadow and let it ripen for seed. In 1849 we saved about two acres of timothy grass; and as it yielded several bushels more than we wanted to sow in one season, it was kept in barrels in the granary. The seed sown in 1850 took well. In 1851 we sowed about one bushel of the same kind of seed, and were much surprised to find that but a small portion of the seed ever came up. Not having occasion to use the remainder of

the seed, it was kept until the spring of 1855, when we sowed about two bushels of it, and none of it grew. The cause of failure was thought to be the universal dryness of the soil.

In the spring of 1856 from one to two bushels more were sown, but none of it vegetated; and in September last about two bushels more were sown after wheat on summer fallow, where the soil was very mellow and moist, and as favorable as a soil could be for seed of any kind, and not one single spire can be found which has sprung from the seed sown at that time.

In a few instances, in years gone by, we have sown turnip seed which was from two to three years old; and from such seed we never obtained many turnips; while from new seed they were almost always apt to stand too thick.

In the spring of 1853, we used carrot seed which was three years old, and not one seed in one hundred vegetated. In the spring of 1855, we used carrot seed two years old; and in some rows of one hundred feet long, there would be but six, eight or ten carrots; and not one-tenth part of the seed in all the rows, ever came up. In the spring of 1856 I sowed a paper of carrot seed, which we have good reason to believe was old seed; and the result was, we did not raise one single carrot.

What the experience of others may be on this subject, I am not able to say; but what I have penned I know to be veritable truth; and, furthermore, I know that the cause of failure was in the seed, and not in the unfavorableness of the soil. And if such should be the result with old seed on my farm, may we not safely conclude that when a failure has been attributed to a poor and barren soil in many instances, the fault was in the seed? We know that grass seed is kept on hand many times by proprietors of agricultural seed stores, until it is several years old; and it is no uncommon thing for country merchants to keep clover and timothy seed from year to year, and sell such for fresh seed; and if my seed should lose its vitality in so short a period of time, it would seem to be the dictate of sound wisdom for every farmer to raise his own seed from year to year; or sow none except that which is known to be the product of the previous season. S. EDWARDS TODD. *Lake Ridge, Tompkins &c.*

COMPOSTS.—Lime is a substance which it is an error to use with composts in which we have barnyard manure. It is equally an error to mix lime with any compound rich in ammonia. The tendency of lime in all composts is to promote decomposition and to waste nitrogen, which escapes by union with hydrogen under the form of ammonia, which is the very treasure of the dung heap, and of most other manuring substances.—*Morton's Practical Agriculture.*

MONTREAL MARKET PRICES.

Rates at which produce is purchased from the Farmers.

3rd April, 1857.

Hay from 10 to \$13 per 100 bundles.
 Straw from 4 to \$5½ do.
 Fresh Butter, per lb. from 1s 2d to 1s 3d.
 Salt Butter, do from 10d to 11d.
 Country Cheese, from 6d to 8d.
 Wheat, none offered.
 Barley, do

Rye, none.

Oats, from 2s 2d to 2s 4d.

Yellow Indian Corn, none.

Indian Corn, (Ohio) none.

Buckwheat, none.

Peas, from 3s 9d to 4s 3d.

Beef, per 100 lbs, from \$5 to 8.

Pork, \$8½ to \$9½ per 100 lbs.

Mutton, per lb., from 6d to 8d.

Veal, 6d to 7½d.

Eggs, 10d to 11d.

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- 200 lbs Drumhead do
- 100 lbs Low Dutch do
- 50 lbs Large French York do
- 50 lbs St. Denis do do
- 28 lbs Red Dutch Pickling do
- 20 lbs Assorted Paris Cauliflower
- 500 lbs Dong Orange Carrot
- 400 lbs White Belgian do
- 200 lbs Early Fama Cucumbr
- 100 lbs Long Green do
- 500 lbs Mangle Wurtzel, long Red
- 200 lbs do do Yellow Globe
- 400 lbs Red American Onion
- 500 lbs Yellow do
- 100 lbs White do
- 50 bushels Assorted Garden Peas
- 10 do Radish, assorted
- 20 do Yellow Aberdeen Turnip
- 60 do Yellow Swede do
- 20 do White Globe do
- 10 do Early Stone do
- 200 do Indian Corn, various kinds
- Long Vermont Clover
- do Rowdon do
- do Dutch do
- Upper Canada do
- White Dutch do
- Lucerne
- Timothy, English Lawn Grass
- Hemp, Canary and Rape Seeds
- &c &c &c

March.

3 ins

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Montreal, 1st July, 1854.

1857.

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