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# AGRICULTURAL REVIEW.

JANUARY.

**CONTENTS:—Official Department.**—Circular of the Board of Agriculture for Lower Canada to the Societies respecting the election of Members for 1863—St. Hyacinthe Convention for a Bank of Landed Credit.—**Editorial Department.**—Farming made profitable—Remarkable instances of success—What 100 acres will produce?—Causes of disaster in farming—Underdraining—Rotation of Crops—The Destruction of Weeds—Farm Buildings—Manure—Shelter for Domestic Animals—Improvement of Breeds—Measuring Operations and Results—Circulating Capital—Personal Education—Conclusion—Lancaster Farmer's Library—Plant Trees to beautify our Home—Some Pumpkins—Sale of Short Horns—Sale of Stock at Guelph—Notes from Canada West—Education of the Farmer—America the Granary of the World—Destruction of small birds causing alarm—The Sea Serpent caught at last—Whisky and Newspapers—Monthly Suggestions—Management of Straw when thrashing—Making bands of Short Straw.—**Farm Operations.**—Green manuring—How to keep corn fodders—Surface application of Manure—A few Experiments with farm yard manure—Unleached ashes—Slaked lime—Salt—Bone dust—Hen dung—Glue factory waste—Deep vs. shallow ploughing for Corn—Seed robeat—Seeding with lye in Summer—How to stow potatoes and preserve them from rot—The Turnip Fly—Carrots—A few hints about the Flax crop.—**Breeder's Department.**—Monthly Suggestions—Ventilation of Stables—Making Mutton—Pounds of Milk for a pound of cheese—Cleaning Milk vessels—On the distention of the Abdominal Viscera of Colts—Marauding cattle—Damaged grain as food for cattle—The management of Horses—Abdel-Kader's rule for a Horse—Ringbone curable—Butter making and butter—Calves in winter—Wintering bees—Feeding hens in winter.—**Engineering Department.**—Water-proof Walks—Nails—Nuts—Screws and Bolts—Burson's Binder—Good results from Trials—An improved white-wash—Moving machines—A new Flax dressing machine—Domestic Cider Mill.—**Horticultural Department.**—Culture of room plants—Construction of a cheap grapy—Shade trees—White Willow—Preparing ground—Setting the cuttings—After culture—Appearance of the fence—The Currant and Gooseberry—How to raise Asparagus—Kind of Plants and setting them—Winter dressing of Asparagus beds—Spring dressing of the beds—Culture of Hyacinth in Glasses—The Planting of small Fruit—Profits of Fruit culture—Stamping Fruit.—**Domestic Economy.**—Domestic Wines—Currant Wine—Elder Wine—Black Currant Wine—Strawberry Wine—Cider Wine—The best way of preserving—Gooseberry Jam—To preserve purple Plunes—To keep Eggs.



## BOARD OF AGRICULTURE FOR LOWER CANADA.

Montreal, December, 1862.

To the Secretary of the County Agricultural Society.

SIR,—I am directed by the Board of Agriculture for Lower Canada to acquaint you that your Society have to appoint four persons, to be Members of the Board, in place of those who retire by rotation, namely : Hon. L. V. Sicotte, Hon. U. Tessier, Hon. J. E. Turcotte, Major E. Campbell. These gentlemen are nevertheless eligible to be re-elected. The Report of Election of these four Members to this Board is to be sent at once to the Honorable the Minister of Agriculture, Quebec.

I am also directed to remind you that your Society must be re-organized early in the third week of January next according to Section 4, 20 Vic. Ch. 49. A copy of the proceedings of the re-organization, with the names and addresses of every office-bearer must be sent at once to this Board to ensure publication in the Official Journal before the 1st of February.

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

GEORGE LECLERC, Sec. B. A. L. C.

## ST. HYACINTHE CONVENTION—LANDED CREDIT.

The following resolutions were proposed at this meeting on Wednesday. M. D. G. Morrison, presided ; Mr. Honore Mercier, acted as Secretary.

Proposed by M. Paul Denis, M. P. P. for Beauharnois, seconded by the Hon. Loujs Renaud, M. L. C., and

*Resolved*,—That the circumstances under which Lower Canada finds herself placed imperiously call for the creation of a bank of *Credit Foncier*, based on a solid foundation and connected with the interests and resources of the agricultural classes of the country.

Proposed by Mr. J. B. Daoust, seconded by Mr. Alfred Duchesneau, and

*Resolved*,—That the rate of interest on the ordinary conditions of loans on mortgage are in this country disproportioned to the resources of the farmer.

Proposed by Mr. J. J. Ross, M. P. P. for Champlain, seconded by Mr. L. Adam, N. P., and

*Resolved*,—That the farmer while calculating chiefly on the product of his lands for the reimbursement of his loans cannot borrow at a high rate of interest and for the purpose of repaying the loan at a single payment without exposing himself to grave inconveniences, as well as to ruin more or less inconvenient.

Proposed by Mr. George Sylvain, M. P. P., for Rimouski, seconded by Mr. J. S. Prevost, M. P. P., for Soulange, and

*Resolved*,—That loans at long terms of credit and a sinking fund for the gradual extinction of the capital by annuities, with liberty to extinguish the debt at one payment, should be the basis of the establishment of a bank of *Credit Foncier* for Lower Canada.

Proposed by Mr. Louis Paquette, seconded by Mr. J. S. Lafontaine, N. P., and

*Resolved*,—That a bank of *Credit Foncier* in order to loan at a low rate of interest, at long terms and in conjunction with a sinking fund will require considerable capital which it will not be able to acquire in this country for some years, in sufficient amount or on reasonable conditions.

Proposed by Mr. Gagne, seconded by Mr. Dessaint, and

*Resolved*,—That the rate of interest at which the bank will have to negotiate its loans, being in proportion to its loans to agriculturalists, it is of the highest importance that it should make them on the best conditions possible.

Proposed by Mr. J. B. J. Provost, M. P. P. for Soulanges, seconded by Mr. F. Bourassa, M. P. P., for St. Johns :

That the bank will not be in a position to negotiate its paper or the *bons* which it will emit to obtain the necessary capital, on advantageous terms, unless the Government gives it aid or accords it a guarantee. That this meeting hopes that all the farmers of Lower Canada will expect the Government to give such a guarantee.

Moved in amendment by Mr. J. B. E. Dorion, M. P. P. for Drummond and Arthabaska, seconded by Mr. B. Ouimet, J. P. :

That the words in the principal motion, "unless the Government gives it aid or accords it a guarantee," be erased, and that the words, "without the concurrence of the Government," be substituted therefor.

Lost on a discussion : main motion carried.

Proposed by Mr. F. X. Valois, seconded by Mr. Jos. Dubreuil, and

*Resolved*,—That public credit, as well as private credit, depends upon the confidence which the lenders have in the will and ability of the borrowers to repay their loan. That the Government in giving the principal guarantee to the bonds of the bank will not diminish its credit because its *will* will not be diminished, and its *ability* to pay will be increased by the ability of the bank, which resting on the mortgages of the farmer will equal at least the amount of the bonds negotiated, in whatever quantity.

Proposed by Dr. Beique, seconded by Mr. A. S. Doudrier, and

*Resolved*,—That the guarantee will be nominal, the Government running no risk of being called upon to pay the interest or principal, because the bank will emit its *bons* for loans corresponding to the obligations which it will have received from the borrowers, and for which it will annually receive in advance an annuity which will comprise interest, sinking fund and costs of administration, and will consequently be able to remit annually to the Government, the interest and sinking fund on the bonds which may have been negotiated, apart from the obligations themselves, bearing first mortgage on properties of a value double the amount of the loans, which the bank will place in the hands of the Government.

Proposed by Mr. F. Bourassa, M. P. P., seconded by Mr. Theophile B. Valois, and

*Resolved*,—That the provincial guarantee, while being a nominal one, and far from being a source of embarrassment to the finances of the Province will contribute on the contrary to the increase of the revenues, because, in having assisted the farming population and cleared the soil of the mortgages and usurers who paralyze the development of its resources, recalled the population absent in a foreign country, stimulated industry and forwarded the interests of commerce, the Government will derive in

30 years, from the increase in the value of its public lands, as also from the customs, that is to say before the bonds come due, a sum as large if not larger than that which it will have guaranteed,

Proposed by Mr. Thomas A. Lambert, seconded by Mr. P. O. Valois, and

*Resolved*,—That this guarantee should be given to the bonds of the bank, to an amount not exceeding five million pounds, which should be furnished to it according to its wants and on deposit of the mortgage obligations of the borrowers for the same amount.

Proposed by Mr. J. B. Scott, seconded by Mr. Jos. Taillefer, and

*Resolved*,—That the annuity to be paid by the borrower should comprise interest, sinking fund and working expenses. That the Provincial guarantee floating the bonds at a reasonable rate, the bank should in consequence only charge borrowers at the same rate, also that the working expenses should be fixed at one per cent, that the sinking fund should be mentioned on the mortgage and fixed at the time of the loan ; provided the borrower engage to satisfy his debt in twenty years and not a longer period than fifty years, with liberty nevertheless to extinguish it at will by giving three months' notice.

Proposed by Mr. Lambert, seconded by Mr. Gendron, and

*Resolved*,—That the guarantee of the Government should not entail any control on its part over the operations of the bank, but merely give it the right of superintendence so that it may see that it acts within the limits of the law and in its proper sphere.

Proposed by Mr. L. S. Desaulniers, M. P. P., seconded by Mr. Taillefer, and

*Resolved*,—That the establishment of a bank of *credit foncier* is a national institution in the interest of the agricultural classes, which is the first, the most numerous, and the most important in the country, and has a right to be comprised in the first rank of the measures which are about to occupy the attention of the Legislature at its next Session. That the country expects that the representatives of the people who represent the agricultural counties, will act with zeal, and use all their influence to obtain the passage of a measure so universally desired.

Proposed by Mr. Jos. Boudreau, M. P. P. seconded by Mr. J. B. Scott, and

*Resolved*,—That Lower Canada expects the farmers of U. Canada to co-operate with it, if they wish, in turn, to obtain its support in the establishment of a Bank of *Credit Foncier*, which they cannot but ask for as soon as they have seen the mechanism and understood the benefits which such institutions have effected, without exception, in every country wherein they have been introduced.

Proposed by the Hon. Louis Renaud, seconded by Mr. P. Lamothe :

That the meeting, acknowledging what Mr. DeBoucherville has done towards establishing a Bank of *Credit Foncier*, is of opinion that he should be elected a member of Parliament, to represent therein the interests of the farmers of Lower Canada.

## EDITORIAL DEPARTMENT.

## FARMING MADE PROFITABLE.



HE question is now asked by thousands, Does farming pay? It is discussed in newspapers, and at agricultural meetings. And in the minds of many it either remains unsettled, or else the business is pronounced unprofitable. They assert that it is continued hard work year in and year out, with a scanty subsistence at best. Intelligent men have asserted that two per cent. is the largest dividend that can be fully relied on from landed property. A hardworking owner of a small farm said, "It requires the hard labor of both me and my hired man through the whole season, to earn enough to pay the wages of the hired man." And it is by no means rare to find men who have received a good farm as a patrimony, that have run in debt and remained so throughout a long life, and left less to their children than they received.

But if farming is a bad business, why is it that three-fourths of our populations select it, or remain in it as a matter of choice, while trade and mechanical employments are open to every one? Why do so many voluntarily choose hard labor and misery?

Every business soon finds its level. If any occupation and scheme happens to prove every lucrative, great numbers rush into it, and it is soon overdone. If, on the contrary, it is found a losing business, a portion withdraw, and leave a better field for the rest. And now, after the lapse of thousands of years we find the great majority of all active men adhering to agriculture as the occupation of their choice. There must be a reason for it. It has indeed been asserted that farmers comprise all the dull intellects, who would be unfit for anything else, and that smart and vigorous men take hold of other kinds of business. Admitting this a moment for the sake of argument, what does it prove? That the most stupid portion of the community, as a body, are more successful in business than the smart and vigorous, for there are less failures among farmers by far, than in what are regarded the most lucrative trades. AMOS LAWRENCE, of Boston, kept a record during a long life, of all his mercantile acquaintances, and found that out of every hundred who entered business, ninety-seven failed of success. A similar record, kept in the city of New-York, showed a result but little more favorable. Agriculture, while it does not produce such sudden occasional accumulations of wealth as trade, is not attended with the sudden dissipation of estates that trade often witnesses. A merchant may make a hundred thousand or more in a year; the same business reduces many, who are reputed wealthy, to poverty. A thousand young men

who engage in the cultivation of the soil, accumulate a larger aggregate property than a thousand who enter trade. If the thousand farmers are the most stupid, they are nevertheless more successful as a body. Then their business must be greatly superior, thus to outstrip their smarter competitors. Either admission, therefore, proves nothing against farming.

It may be laid down as an impregnable position, that no industrious farmer, who has studied his occupation well, and who exercised a medium share of judgment, ever failed in his business. If the farmer has fallen behind hand, it has been occasioned by extravagance in some other quarter; or by meddling with speculation; or by office seeking, or some neglect. Many instances are known where men have begun life with little or nothing, and who have accumulated, by farming exclusively, fifty to one hundred thousand dollars, and some even more. A young man in Western New-York, with a few hundred dollars to commence with, owned before he was forty a farm of 700 acres of fertile land, from which he made annually an average of about five thousand dollars. Men who have made twenty or thirty thousand by farming may be counted by thousands; and never, in a single instance, have any of them incurred any danger of becoming bankrupt. During the past season the writer of these remarks visited a number of farmers in one of our counties, none of whom presented their moderate estates, nor their management, as models; but who nevertheless showed that a continued and certain increase might be depended on, by a good use of very moderate capital. Some of these examples are the following:

Isaac N. Sexton, of Venice, Cayuga County, N. Y., occupied 100 acres, which he bought seven years ago at \$60 per acre making the farm cost \$6,000. He paid \$3,000 at the time of purchase; during the seven years, he has replaced poor fences with durable ones, added farm buildings, and paid the remaining \$3,000. Poor health has prevented much bodily labor, but his business has been vigilantly attended to. The annual net profit, besides supporting a family comfortably, was over \$500—which, placed continually at interest, with a similar yearly addition, would amount, in a life of forty years, to \$100,000.

Alvin Fresman, of Scipio, in the same county, began 35 years ago with \$100 as his whole estate. He has now 244 acres of excellent land, all paid for by farming. A young neighbor, FAYETTE VAN LIEW, who had \$1,000 five years ago, paid half this amount, or \$500, as the first payment towards an eighty acre farm costing \$5,200—the remaining \$500 was applied to purchase animals and implements. He has paid a yearly average of \$640 for the 80 acres in the 5 years, and reduced the debt to \$1,800.

George H. Chasz, of Springport, purchased a 150 acre farm, for \$50, per acre; and, after occupying three years

in learning his new trade, has now, in seven years, tlo drained nearly the whole, and made other improvements, all paid for by the products of the land, and has been offered \$100 per acre, or double its cost, for its improved value.

**Henry Woolford,**  
of Conquest, same county, has a farm of 123 acres, which he bought five years ago for \$6,400, paying towards it \$3,000. He has since paid the remaining \$3,400 from the farm, besides constructing several hundred rods of good board fence. In other words, he has cleared over \$800 yearly, (counting interest,) besides supporting his family.

**Peter Hodson,**  
of the town of Venice, occupies 140 acres—of which 100 acres were bought twelve years ago, and 40 since added. At the time of the purchase he had no means—he ran in debt for the whole. From this land, he has paid for all in the 12 years, besides erecting a \$1,200 barn, and making 21 miles of underdrain. His farm is worth about \$12,000; that is, he has cleared \$1,000 annually.

These farmers are better than the average, but there are hundreds of others as successful.

Their success consists in a well managed mixed husbandry, with good but not extraordinary crops. Some imperfections were observed in the management of every one; and equally good farming is not difficult for any one who understands the business.

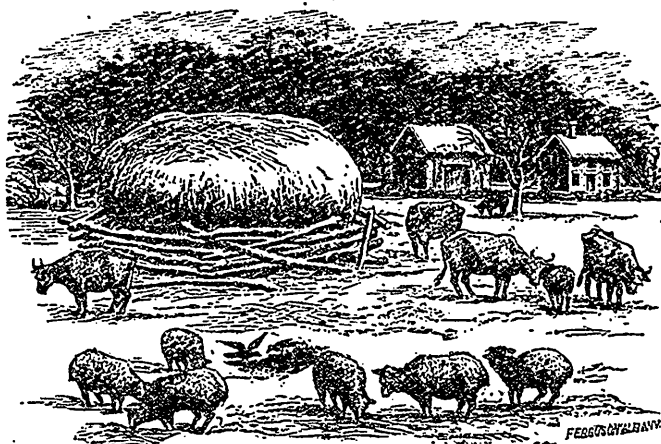
It is not unusual for energetic young farmers to clear \$1,000 annually from good 150 acre farms, besides supporting a family. If this course were continued for 40 years, with each yearly sum placed at interest, and interest on interest added, it would amount, at the expiration of this period, to \$200,000.

Where is the impossibility, then, of farmers laying up large fortunes if their business is managed with skill?

**What 100 acres will produce.**

In order to convince the reader that such a result is not of difficult attainment, let us make a fair and moderate estimate of what may be raised on one hundred acres of improved land, by good management:

- 15 acres of corn, 60 bus. per acre, 50cs. \$375.00
- 15 acres of meadow, 2 tons per acre. \$8 240.00
- 10 acres of oats. 50 bus. per acre, 25cs. 125.00
- 5 acres of barley, 25 bus. per acre, 50cs. 62.50
- 25 acres of pasture, worth..... 200.00



**No. 1.—Effect of wintering animals in open field.**

15 acres of wheat, 20 bus. per acre.	\$1.25	375.00
5 acres of good orchard, aver. \$40 p. ac.		200.00
1 acre of potatoes, 150 bus. 25 cs....		37.50
4 acres of corn, as fodder, 16 ts. worth		80.00
5 acres of peas, 25 bus. per acr.	\$1....	100.00

100 acres	\$1,795.00
Deduct labor, board, wear and tear, &c.	795.00

Net,.....\$1,000.00

The domestic animals which occupy the farm are not reckoned in the estimate, the pasture and other food they consume being already accounted for. It will be observed that the product per acre is quite moderate—much below what many good farmers obtain, and in but one case exceeding by a fourth the average product of these crops, as determined by the accurate county statistics of **EZRA CORNELL**, of Ithaca, for Tompkins county, N. Y.

As nearly one-half is required for labor and

expenses, an increase of one-half more in the crops, making corn 75 bushels per acre, wheat 30, hay 3 tons, oats 75 bushels, &c., which is attained as an average by the very best cultivators, would make the net over \$1,800. But this increased sum is not needed to show the practicable profits of the business, when it has already been shown that the lesser sum would give the owner \$200,000, if continued during an active life of 40 years.

It is admitted that many cultivators of the soil make little or nothing, or what they do make is consumed by waste. One, for example, allows his land to become overrun by weeds. A lessening of the whole crop thus but one dollar per acre, would be \$100 each year, amounting in the 40 years, with interest, to \$20,000. Another loses as much, yearly, by exposing his domestic animals to winter without shelter, making another \$20,000. A like sum is again lost by a want of draining

wet fields, and another by raising crop after crop in the same field, without rotation, sinking \$40,000. Other points of bad management would run up the sunken fortune to \$100,000 or \$200,000.

Nothing is more important, therefore, for a successful course, than to ascertain first, what are the most prolific causes of waste and disaster, and, secondly, to learn how to avoid them.

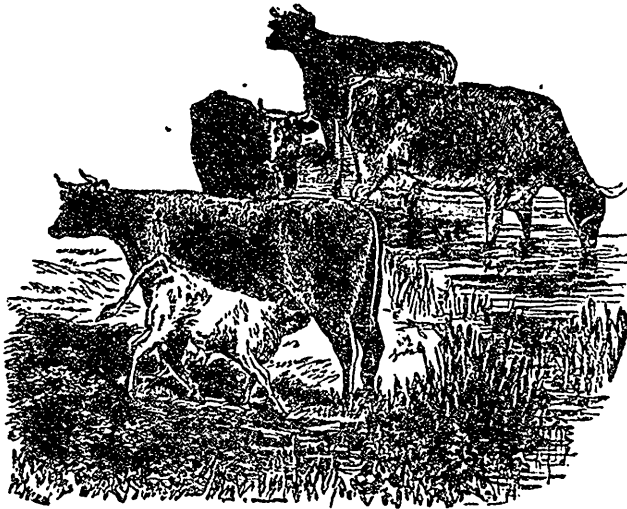
**Causes of disaster in farming.**

Among the prominent causes of disaster, are :

1. Purchasing poor land at a low price, instead of the best at a high one.
2. Want of underdraining in all places where work is retarded, growth lessened, and manure lost, by a surplus of water.
3. Inefficient fences admitting depredators to destroy crops, and deranging farm order generally.
4. Building poor barns and stables, and allowing them to become dilapidated.
5. Wintering cattle, sheep and colts, at stacks in open fields.
6. Plowing badly, on the shallow, cut-and-

cover system, instead of throwing up the soil into a fine, deep, even, mellow bed of earth.

7. Covering seed imperfectly, in consequence of such bad plowing, and thus allowing weeds and grass a joint occupancy of the land.
8. Planting and sowing too late, thus diminishing the crop to an amount equal to what would be the whole net profit; that is, throwing away the entire avails.
9. Allowing cornfields to be filled with a dense undergrowth of weeds and potatoes and turnips, with a dense overgrowth of the same.
10. Procuring cheap implements, and losing many times the cost of good ones, by the slow and imperfect work they perform.
11. Leaving implements exposed to weather, to crack, warp, and decay, scattering them in fields, about the barn-yard, or along the side of the public highway.
12. Throwing brush, rubbish, &c., along fences and highways, thus promoting the



**No. 2.—Appearance of cattle in spring, well wintered under good shelter.**

growth of mulleins, thistles, burdocks, and nettles; instead of destroying such brush by fire, and leaving neat and clean borders to the fields.

13. Planting the same crop year after year in the same field, thus diminishing the product, and filling the lands with weeds.
14. Omitting to spread manure at the right time, and then selling or giving it away to ged rid of it.
15. Raising hump-back cattle and landpike hogs, that will consume monthly their entire value in feed, instead of the best animals, which fatten easily on little, and sell quickly for cash at high prices.
16. Feeding animals irregularly, causing them to fret for their food an hour one day, and to receive it before they are ready for it the next.
17. Failure to sow plenty of clover seed, and

to plow under annually at least one field as a green crop, for manure, and thus, in conjunction with animal dung, to maintain or increase the fertility and value of the farm.

18. An entire omission to keep accounts of the cost and profits of each field, and of the whole farm, annually.

Avoiding these and other objectionable practices, the farmer who aims at success must remember—first, that *the best land is the cheapest to purchase*. For example, if 25 acres cost \$100 per acre, (on account of the intrinsic value of the land,) they will be more valuable than 100 acres at \$25 per acre. The 100 acre farm may require \$500 to work it, and possibly may yield \$500 in the value of all the crops. Nothing is thus made, and the interest is sunk. Good land works more easily than bad, but admitting the 25 acre farm may be worked at

the same rate, or for \$125, and that the crops are only double the other, or \$250, the net profit would be \$125 more than on the 100 acres. If the product of the smaller farm were as much greater in proportion to its cost as the other, or worth \$500, then it would net \$375.

#### Underdraining,

alone, costing say half the price of the land, frequently doubles, and sometimes quadruples, the product, and costs less to till. It lengthens the season, by admitting earlier working, earlier planting, and a more rapid growth, from the increased warmth of the soil; and, in consequence of the drier bottom, affords better security from frosts.

#### Rotation of Crops,

by retaining fertility, preventing the continued spread of any one weed, and promoting order, is always an important part of successful husbandry.

#### The Destruction of Weeds,

is absolutely essential to good farming. Sometimes they consume as much of the strength of the land as the best crops. On some farms, hundred of dollars worth of products are choked down and crowded out by burdocks, mulleins, chesess, redroot, Canada thistles, jonsworth, rag weed, &c.; and a still greater injury is committed by filling the soil with foul seeds. The good farmer must not allow a thistle in his pasture, a foxtail in his corn, nor a plant of chesess in his wheat; but the whole premises should have a neat, chaste, and finished appearance.

#### Farm Buildings,

Ample and convenient for the reception and preservation of crops, and for the shelter and comfort of Domestic Animals, are of great importance. Much depends on plan and arrangement. A costly barn may be inconvenient of access, and by bad planning involve much unnecessary labor. A cheaper one, if well arranged, may be made to hold more, and, by a proper disposition of parts, save much daily work.

#### Manure.

The manufacture and management is absolutely essential for preserving and increasing the fertility of the land. The chief points are, to save all that is made by animals, by absorbents, and composting, and to break it fine and intermix well with the soil when applied. Manuring with green crops, and especially by turning under a dense growth of clover, should accompany the practice of enriching with yard manure.

#### Shelter for Domestic Animals

constitutes an important part of successful husbandry. Repeated trials prove that one-third of the food is saved by protection from storms and cold winds, and the animals come out in spring in much finer condition. But wrong opinions on this subject are prevalent. Some have concluded that shelter is of little benefit, because cold winds are allowed to creep under the sills of the imperfect sheds, and between the wide cracks of the boards. Such cold currents are nearly as bad as full exposure. Others, again, have made close stables, but have neglected cleanliness and ventilation.

A clean skin and a pure air are indispensable to comfort and thrift. There are but two ways in which shelter may be profitably given—either by a dry, broad, spacious, tight shed, protected from the sweep of the winds on every side, as for example the basement of a barn well flanked by other buildings; or else by means of stables, dry, clean, well littered, and perfectly ventilated.

#### Improvement of Breeds.

A bad animal consumes much food and produces little flesh; is hard to sell, and brings but little in market. The mixture of blood from the best breeds with selected native animals, will often double their value.

#### Measuring Operations and Results.

He who weighs and measures can only know with certainty what management is most profitable. A young farmer, who had used a platform scale for two years, for weighing his cattle, and thus determining the best treatment and feeding, asserts that it has already saved him hundreds of dollars. All the fields of a farm should be surveyed or measured, and laid down on a map, by which the product per acre of all crops may be easily ascertained. A great deficiency among farmers generally, is the want of accurate accounts, showing the cost and product of each crop, leaving them to guess at random what part of their business they should extend, as most remunerative.

#### Circulating Capital.

The man who buys a farm without reserving capital for working it, or for purchasing animals, implements, seeds and manure, and paying for manual labor, is like the merchant who procures a fine vessel and sends it to sea without any cargo, or like the railway company which makes a road but neglects to provide cars and engines. In England, where they are compelled to farm profitably, the circulating capital is required to be about seven or eight times as great as the yearly rent. JOSIAH QUINCY says: "At the great exhibition in Paris, I met an English farmer who told me he had just leased an estate for which he paid eight thousands, dollars a year. I asked him what was the first thing that he did. With a smile he replied, 'The first thing that I did was to invest ten thousand pounds sterling (fifty thousand dollars) in stock, utensils, seeds and manures.'" In this country, the capital thus invested should be about one-half the value of the farm. With a sum much less, it is impossible to conduct the business with profit.

#### Personal Education.

A farm is not a self-running machine. It needs constant and vigilant attention. The small farmer may spend a large portion of his time in personal labor; the large farmer cannot, without neglecting a proper supervision. He should, however, understand well how to perform all hand operations, that he may take hold and show awkward laborers when necessary; but his time should be mostly occupied by a constant inspection of all the premises, and rendering, by his presence, facilities for the progress of the work.

#### Conclusion.

In conclusion, the business of the farmer stands pre-eminent for its freedom from all

risk, and for the certainty of its profits, if properly managed. It is true, a single crop may be injured or destroyed by insects or unfavorable weather; but no good farmer depends on a single crop. His profits should come from at least half a dozen different kinds of crops, and from as many different species of domestic animals. If one fails, there are then eleven resources left. As an aggregate result, he is always successful. The poor manager, who works badly tilled, wet, weedy, half fenced land, discovers that failure is the rule, and success the exception; but the energetic, skillful cultivator, who has clean, fertile, well drained fields, rarely meets with a failure, and then only a partial one. His failures, even, are better than the bad farmer's success *An. Reg.*

#### LANCASTER FARMER'S LIBRARY.

At the quarterly meeting held in the Mechanics' Institute, Mr. Lewtas, corn merchant, read the following:—It will perhaps be remembered that, at the meeting of farmers in September last, I spoke briefly upon the necessity of granting long leases, especially to the larger farmers, in order that the earth might yield its proper increase. I have again to bring this subject before you, and I feel that I cannot urge it too strongly and think that I shall be able to show that landlords unwilling to grant long leases are in many respects blind to their own permanent interests. We all know there are great fluctuations in the price of breadstuffs; this arises to a great extent because of our being indebted to foreign importations of grain. No one will deny the truth of the assertion, "The more grain we can produce at home and the less we are dependent upon foreign the better." I contend there are tens of thousands of acres in England at present unproductive which might be made fertile, and there are great numbers of acres in this locality, namely, Cockerham, Pilling, Wimmerly, Stalmine, and St. Michael's thus capable of being reclaimed and made valuable. The greater the amount of land brought into cultivation the better for the farmers, as they can more easily find farms, more employment for the working classes, and better for the whole country at large. I have seen a great deal of the evils of short leases, and I have had several opportunities of seeing what has been accomplished when farmers knew that they were protected by a long lease. In 1805 or 1806 my late father took Nately Hall Farm under lease. There was on the farm a great quantity of wild top moss land; nothing grew upon it but heath, consequently it was of no value. The preceding farmer said it was not worth cultivating, and he did not attempt it. However, my father marled and ditched about 40 or 50 statute acres, and the result was that in two or three years' time there were good crops of oats and afterwards clover, and there have been crops on the land ever since. Land which was previously worth nothing became worth in a very short time from 25s. to 30s. per acre per year. The tenant on this farm, who preceded my father, paid 120 guineas rent, and made nothing out. My father took the farm at 400 guineas rent, with 30

or 40 acres less land, and made money. It would be difficult to mention a stronger argument than this in favour of ditching and marling under a long lease. Some of my forefathers took under a lease of 99 years 100 acres of moss land in Out Rawcliffe, and brought them into a state of cultivation, and the result was that in 1805 or 1806, land which had never before produced anything but heath or ling yielded 12 loads of meal per customary acre, and this for 14 acres together, and in that year they had about 300 loads of oatmeal, all from moss land. I remember being in Leeds market some few years ago, and I there saw an exceeding fine sample of white wheat which had been grown upon fen land. The merchants who had it to sell informed me that it was produced from land which an intelligent farmer had taken under a 21 years' lease. The value of the land before it was cultivated may be judged of from the fact that under the lease it was let for 5s. an acre, and here you see before the lease had expired the land grew some of the finest wheat it was ever my pleasure to behold off this class of land. If any one wishes to see what is possible to be done in the way of reclaiming and benefiting moss land, they cannot have a better opportunity than by visiting and inspecting the land, about 400 statute acres, in the occupation of Mr. James Jenkinson and Sons, Pilling; 200 or 250 statute acres of that land was formerly as bad and worthless as could well be imagined, and it now yields the finest crops of wheat, oats, clover, potatoes, &c. Several of his neighbours have also been successful in turning into good productive land what before only produced ling or heath and could not be let at any rent. Any one acquainted with the locality knows that there is in Pilling, Stalmine, Wimmerly, Cockerham, and St. Michael's several hundreds of acres of moss land utterly unproductive. This ought to be brought into a state of cultivation by means of draining and marling. And the expense of doing so would be much less than by reclaiming land from the sea, as they do in many places. I reckon that the cost of reclaiming moss land—that is, draining and marling, or claying it—before it is fit to receive a crop, is from £4 to £6 per statute acre, but, of course, all depends upon the distance marl has to be carted. Now, in order to complete this work three or four years are required, and unless a man is willing to pay for this work himself, farmers will not be found to do it without a long lease. I know an instance of a farmer in St. Michael's who took about 100 statute acres of and, which, since Noah's flood, I suppose never produced anything but ling. He brought it into cultivation under a lease 14 years, and it now produces excellent crops, and he is amply paid for, as it were, making the land. And then I have known an instance of a farmer being offered moss land rent free for three years, but he would not undertake to reclaim, and I think he was right. They formerly had it free of rent for seven years. If farmers had the moss land offered to them for 14 years at a low rent, say 5s. an acre, barren and unproductive land in our country would soon disappear. Were this plan adopted, landlords would be



great gainers; for at the end of the term a very least their land would let for 20s. per acre per year, whereas it now fetches no rent whatever. One good plan I conceive of reclaiming moss land is to let it in small farms of from 30 to 60 acres, putting up buildings of an inexpensive but convenient description, and then leaving the farmer to push his way, which he will do, if he knows he is protected by a long lease. Another good plan is to add unreclaimed moss land to adjacent farms of hard land. It will be found that this reclaimed moss land is specially adapted for growing potatoes free from disease, (as numerous instances could be produced where crops of potatoes on hard land have been seized with the disease, whilst those on the moss land have escaped entirely. It is my firm conviction that in the townships I have already alluded to in this locality there is sufficient moss land to yield annually 20,000 to 30,000 loads of potatoes; that is, if the work of reclaiming were undertaken, besides what may be done with moss lands in other parts of our country, such as Chat Moss, Farrington Moss &c. Who cannot perceive that this would be a most important means of adding to the wealth of the country? In order to accomplish the cultivation of moss land, good deep and wide water-courses and good roads are essentially requisite, and as an extra quantity of labourers are required, cottages should be erected in order to prevent the necessity of labourers having several miles to walk before they reach their day's labour. With respect to grass lands I have to observe that if tanks for liquid manure were placed on each farm, they would prove of great value. These are expensive and many farmers, although convinced of the usefulness of liquid manure, do not procure tanks, because their occupancy of their farms is so short and uncertain. It would only be fair and reasonable if landlords assisted the farmers in making manure tanks. If materials were found by the landlord, many farmers would gladly provide labour and carting. I have seen land made to produce double quantity of grass, or more than that, by draining and manuring or boning, or by using a mixture of bones and guano. I know an instance which I can point to, in the neighbourhood of Garstang. The land was wet; it is now well drained. Bone manure was applied, and where formerly only one horse and five cows were able to graze, there is now sufficient for five horses and twenty cows. I venture to throw out a hint which may be beneficial; the idea appears to me to be founded upon reason. If a field were laid down for a permanent pasture with grass seeds and a crop of grain, should the grass entirely fail, I think leases should be so framed as to allow the farmer to plough up the field again and try it with another crop and grass seeds, provided the farmer were willing to let another field be in grass which was due for ploughing. As an instance of what may be done in grass land, I may mention that my father drained a meadow in Aldcliffe, and after manuring it well for two or three times it produced four or five times as much grass as it did before, and, what is of great importance, I may confidently state that the grass was of much better quality.

My father, who for many years was known in this neighbourhood as a successful farmer, believed firmly in the great advantages to be derived from draining and tilling. I have known him lay out in one year (at the commencement of a new term) almost as much money in tilling and draining as the rent amounted to. In 1825, he spent in this way about £300, and during a term of nine years I have known him spend from £700 to £800 in the work of draining and tilling. What was the return? Double crops of wheat, beans, oats, clover, &c. to what he had before. The beneficial results I have alluded to were wrought out under long leases, and farmers ought to have leases of 14 years, in order to stimulate them in cultivating their land properly. Seven years is too short a term; it takes three or four years to complete the work and get the land into proper order. Then during the remaining seasons, there is not time to reap the advantages, especially if the seasons prove unfavourable. If a farmer should die during the time his lease is running, and his widow should be unable to carry on the farm, and the farm has to be re-let, there should be some arrangement made by which the children of the farmer should derive benefit from the additional rent which the farm would fetch in consequence of the money invested in tilling and improving during the early part of the term. I am firmly persuaded that if this mode of tilling and letting land were brought about, farmers would till their land with much more spirit than they do at present. I should much like to see our farmers sitting under a 14 years' lease; then I am sure they would be better able to compete with their neighbours, the Scotch farmers, and we should have much larger crops both of grass and corn. What our farmers produce generally is better than what we import. We have had twelve years' free trade in corn and other farm produce, thereby giving a fair test of prices; and I do not see that farmers for the next ten years may look for any better prices than they have had during the last ten. I have alluded to the evils of short leases. Just let me say that I have seen where a farmer in this neighbourhood, on a farm taken from year to year, put nearly all the manure his farm produced upon ploughed land—thus robbing his meadows until they became wretchedly poor. This ploughed land also became poor by his taking therefrom two white crops in succession. This farmer was succeeded by one having a seven years' lease. He manured and tilled and drained thoroughly but at the end of seven years he was between £300 and £400 out of pocket, and unfortunately for him he did not succeed in getting his farm for a fresh term, thus obtaining no recompense for his expenditure and labour beyond a prize at an agricultural society for the best managed farm. Thus it will be seen that an enterprising farmer may bring ruin upon himself with a lease simply for seven years. In my opinion the remedy for this lies in leases not less than fourteen years in duration. In conclusion I beg to observe that I believe there is nothing more honest than land. If you do well to it, it will do well to you, or, as it is expressed in Proverbs, 28th chapter and 19th

verso—"He that tilleth his land shall have plenty of bread." Let our farmers have fair play, and I believe they will till and do all that is requisite; but landlords should be reasonable, and grant long leases.

**PLANT TREES TO BEAUTIFY OUR HOME.**

Show me a home were a love of tree-planting has been carried out in practice, and I will show you a home doubly endeared to all who claim a right within its hallowed precincts. It diffuses a charm to scenery that before was forbidding, and increases the attractiveness of every neighborhood where it is practised. Then, with one high in horticultural authority, I will say, "let every man, whose soul is not a desert, plant trees."

We love a tree that we have planted, and as we look over our grounds and see the trees we have so carefully transplanted, growing and flourishing under the ever ready co-operation of Nature, we rejoice as though we beheld the work of our own hands.

To the lover of "the ornamental" I say, if you would work for your country, and know that it is the better for your having lived in it, then plant trees. And to him who never does any thing except with a view to the almighty dollar, I would say in the language of the old Scotch Laird to his son: "When ye hae naething else to do, Jock, ye may as weel be planting a tree Jock, for it will be growing while ye are sleeping." To all, I say, plant trees, and you will enlist the sympathy and command the esteem of every intelligent person in your neighborhood. "Plant trees," plant them well, and care for them afterwards. All can do this who own a rood of ground, and thereby confer a lasting benefit by practicing 'planting trees.'

**"SOME PUMPKINS."**

Our neighbor Judd, of the *Agriculturist*, with characteristic enterprise, has lately been having a pumpkin show at his establishment, No. 41 Park Row, in this city. We dropped in, the other day, among the crowds of visitors, and found ourselves amid worlds of pumpkins. There were pumpkins in the rear, pumpkins at the sides, pumpkins above, pumpkins below—in short nothing but pumpkins from Park Row through to Nassau street.

The first prize (\$20) for the largest specimen was awarded to W. D. Hall, of Wallingford, Conn., and it is truly a pumpkin monster. It is nearly round, weighs 270½ pounds, and measured 8½ feet in circumference.

M. Hall also took the first prize (\$10) for the largest yield on a single vine. This exhibit consists of forty-two splendid specimens, comprising an aggregate weight of 1,259½ pounds.

G. A. Spaulding, of South Woodstock, Conn., exhibits a grand sample of the cream pumpkin. J. A. Jowineay, of Tottenville, Staten Island, shows a marrow squash weighing 92½ pounds. Among other curiosities are 200 different varieties of gourds. These exhibitions of specialties are promotive of much benefit, for they serve to arrest the attention of cultivators and lead them to emulate every improvement.

**SALE OF SHORT HORNS.**

The last number of the *COUNTRY GENTLEMAN* contains an account of quite an important Short-Horn sale in England. Later foreign journals bring us the particulars of one still more extensive—that of Mr. TALLANT'S noted herd, at Bushey Grove, Oct 1—"the final close," says the Mark Lane Express, "of one of the shortest, but certainly the most successful Short-Horn careers on record. In the May of '57 the herd—59 strong—was dispersed by Mr. Wetherell, on this very spot, at the memorable average of £90 2s. 4d. During the interim, no less than four first Royal prizes for Great Mogul, Harkaway, Rose of Bushey and Whipper-in have rewarded Mr. Tallant's care and tact, in the teeth of very severe competition, and now comes an average of £74 3s. 8d. for 80 animals, as the well won seal to that eventful five years. The average this autumn was swelled by no 500 gs. and 400 gs. for bulls, but it was made simply by the thorough confidence which was felt, and the unquenchable enthusiasm of men still young in Short-Horn breeding, who were anxious to have a dash of the blood which had stood the public test so well in the great national and country show-yards."

The number of females sold was 56, of which no less than sixteen brought one hundred guineas or more each—the four highest priced being

Lot 37. Rose of Bushey, red, calved July 1, 1860; got by Great Mogul, 14651—Lord Spencer, 205 gs.

Lot 10. Vesta, roan, calved July 3, 1857; got by Lieutenant, 14795,—Mr. Sterling, Kier, 200 gs.

Lot 44. Beauty of Bushey, rich roan, calved Dec. 4, 1860; got by Great Mogul, 14651—Baron Rothschild, 185 gs.

Lot 45. Winning Witch, red, calved March 25, 1861; got by Great Mogul—14651—Mr. Stirling, Kier, 180 gs.

The number of bulls and bull calves sold was 22,—the two highest priced being

Lot 3. Whipper-in, 19139, rich roan, calved Dec. 30, 1860; got by Cock-of-the-Walk, 15782—Duke of Richmond, 160 gs.

Lot 4. Squire of Bushey, roan, calved April 1, 1862; got by Royal Butterfly 5th, 18756—Mr. Milne, 110 gs.

There being thus no very extravagant figures, as remarked above, to help make an apparently unusual average, it need scarcely be noted that the prices throughout were of a very gratifying character. The aggregates were, for the 58 females, 4,275 guineas, (or an average of nearly \$370 each,) and for the 22 bulls, 1,110 guineas, (an average of about \$250)—total of the whole 5,385 guineas, or about \$26,925.

**SALE OF STOCK AT GUELPH.**

On Wednesday last an important sale of stock took place on the farm of Mr. F. W. Stone, President of the Agricultural Association, Guelph. The attendance was not very large, and only a few stock breeders from a distance were present. Mr. Stone's splendid stock of cattle was first offered, but as the bid-

ding was far from spirited, only a portion of the lot was sold. Lady Cramer, a red and white cow, calved 24th July, 1850, was knocked down to Mr. Thomas, McCrae, for \$100. Young Velvet, calved 14th June, 1853, was sold to Mr. F. Lovell, of Galt, for \$180. Sanspareil, a two-year old heifer, was sold to the Hon. David Christie for \$180. Sanspareil 5th, calved 13th February 1860, was sold to Mr. Walter Raikes, of Barrie, for \$180. Walter West bought Goldfinder, a yearling heifer, for \$120, and Mr. Arthur Hogge, bought the second Duchess of Oxford, calved 12th December, 1860, for \$205. Hon. David Christie bought Miss Margaret, calved 27th November, 1861, for \$135. Only one aged bull was sold—President, to Mr. Jas. Carter, Puslinch, for \$80. Royal Duke, calved 5th December, 1861, was sold to Mr. Thomas Clarke, Eramosa, for \$120. Mr. Arthur Aogge bought Earl of Gloucester, calved 15th December, 1861, for \$100. The sheep did not go off well. A gentleman from Connecticut bought one Cotswold two shear ram for \$45. A Leicester two shear ram was sold to Mr. James Cowan for the same sum. The others sold—6 or 7—were bought by persons in the district at prices averaging \$15 each for South-downs.

#### NOTES FROM CANADA WEST.

We have just secured, in good condition, the best crop of winter wheat since the advent of the midge; and in spite of the aphid and partial ravages of the midge, the spring wheat, now ready for cutting, promises a good return and a fine sample, though somewhat short in the straw.

I have seen some as fine fields of hay this season as I ever saw in my life, but it was principally on meadows of the first or second crop, which is quite long enough for a good system of rotation. If meadows are allowed to run out, we cannot expect them to yield well.

It is true, that from the 22d of April and through May we had but one good shower, yet as it was rather cool, things did not suffer so much as they otherwise would have done, and it was a capital time to kill weeds, couch grass, &c. Carrots on heavy lands did not come up well, but on light, well prepared lands they vegetated freely enough and look now remarkably well. But turnips are very fine and give large promise of a good crop. An unusual large breadth has been sown, but not much more than the average increase for the past few years. Very little turnip seed is raised in this country, the greatest portion being imported from England, the seed from there being considered better than that raised here. I know one person who has eighty acres of roots this season, and throughout the province I believe there are acres now where ten years ago there were bushels.

Fruit will be an average crop, but not so heavy as was at one time anticipated. The drouth caused the trees to cast rather more than usual when about the size of acorns, but this was very fortunate for pears as it saved us the trouble of thinning, and will give us a better sample, both of pears and apples.

Upon the whole we consider this season a most favourable one, with abundant cause of gratitude to God, not only for plenty but for peace to enjoy it.

#### EDUCATION OF THE FARMER.

The following extract is from Mr. Greeley's late address before the Vermont State Agricultural Society:—

*No man can afford to bring up his children in ignorance of the principles and facts which underlie successful farming.* I do not know that this truth is yet accepted by the great body of your farmers; if not, I must try to make it so. I hear complaints that our cleverer farmers' sons dislike their fathers' vocation, and I am not surprised that it is so. The father has unconsciously taught them to despise it as the least intellectual and most stolid of all possible pursuits. He never brought home a book that treats attractively, wisely, enthusiastically of Agriculture. He has, as a general rule, never considered an agricultural journal worth taking. He has not deemed it important that they should be instructed in the natural sciences which underlie and elucidate his own vocation. He never made the latest improvements and discoveries in aid of agriculture the subject of inquiry, of study, and of fire-side discussion. In his daily life and thought, farming is as dreary and mindless a drudgery as it can be to a horse in a bark-mill. How, then, can he expect his sons, if they have any aspirations beyond hog and hominy, to like farming? He has given them every possible negative reason to detest it.

Now I do not hold that every man, or even every farmer's son, should be a farmer. There are other pursuits equally important, laudable, honourable. But I do contend that every farmer should so instruct and train his children, that they shall at least respect his vocation, though they should not follow it, and understand its laws and processes so thoroughly that they will never forget them. I would have every farmer's son feel that, if defeated in his chosen pursuit—law, medicine, trade, mechanics, or whatever it may be—he can at any moment, return to the vocation of his youth, and earn therein an honourable and adequate subsistence. He is morally certain to prove more upright and independent in whatever pursuit, if he enters it with this well grounded confidence in his ability to live without it. But I still more urge insist that each farmer shall so honor and esteem his own vocation, shall so render it and respect it as an intellectual and liberal pursuit, that his better educated and mentally developed sons shall not despise and reject it as fit only for oxen.

#### AMERICA THE GRANARY OF THE WORLD.

In this book of travels in the United States recently published, Mr. Trollope says:—I was at Chicago and at Buffalo in October, 1861.—I went down to the granaries, and climbed up into the elevators. I saw the wheat running in rivers from one vessel to another, and from railroad vans up in huge bins on the top sto-

ries of the warehouses ; for their rivers of food run up hill as easily as they do down. I saw corn measured by the forty bushel measure with as much ease as we measure an ounce of cheese, and with greater rapidity. I ascertained that the work went on, week-day and Sunday, day and night incessantly ; rivers of wheat and rivers of maize ever running. I saw men bathed in corn as they distributed it in its flow. I saw bins by the score laden with wheat, in each of which bins there was a space for a comfortable residence. I breathed the flour, and drank the flour, and felt myself to be enveloped in a world of breadstuff. And then I believed, understood, and brought it home to myself as a fact, that here in the corn lands of Michigan, and among the bluffs of Wisconsin, and on the high table plains of Minnesota, and the prairies of Illinois, had God prepared the food for the increasing millions of the Eastern World, as also for the coming millions of the Western. I began to know what it was or a country to overflow with milk and honey, to burst with its fruits, and be smothered by its own riches. From St. Paul down the Mississippi, by the shores of Wisconsin and Iowa by the Ports on Lake Pepin, by La Crosse, from which one railway runs eastward, by Prairie du Chien, the terminus of a second, by Dunleith, Fulton, and Rock Island, from which three other lines run eastward, all through that wonderful State of Illinois—the farmer's glory—among the ports of the Great Lakes, through Michigan, Illinois, Ohio, and further Pennsylvania, up to Buffalo, the great gate of the Western Ceres, the loud cry was this—"How shall we rid ourselves of our corn and wheat?" The result has been the passage of 60,000,000 bushels of breadstuffs through that gate of one year ! Let those who are susceptible of statistics ponder that. For them who are not I can only give this advice. Let them go to Buffalo next October and look for themselves.

#### DESTRUCTION OF SMALL BIRDS CAUSING ALARM.

For several seasons, and particularly the last, there was found to be a scarcity of breadstuffs in France. This state of things caused great alarm, and memorials were presented from some of the departments to the Minister of Agriculture, the Legislative Chamber, and the Emperor. An elaborate report has been made on the subject, in which the destruction of small birds is charged with being one of the leading causes of deficient crops. The destruction of small birds has gone on increasing, and in a corresponding ratio has proceeded the increase of those insects and reptiles which prey on the crops of grain and all kinds of vegetable food ; and on these insect tribes the small birds live. To that degree of alarm has the public mind been brought, that inquiry and investigation have been instituted, and have demonstrated the fact that the destruction of the beautiful feathered songsters may, if continued, lead to something like positive famine. This document has been translated and is being circulated in England, to aid in arresting the wanton destruction of birds in that country. It was the subject of a paper recently read before the

Natural History Society of Reigate, from which we cut the following :

"Although the sparrows levy a small contribution on the farmer's grain, yet the far greater portion of their food is from injurious insects and the whole of the food the give them young is from the tribe of insects. At the beginning of the world man would have succumbed in the unequal struggle if God had not given him in the bird a powerful auxiliary, a faithful ally, who wonderfully accomplishes the task which man is incapable of performing—in fact, against his enemies of the insect world man would be powerless without the bird."

At a late agricultural meeting at St. Gallen, in Switzerland, *Baron von Tschudi*, the celebrated Swiss naturalist, dwelt on the important services of birds in the destruction of insects. Without birds, said he, no agriculture and vegetation are possible. They accomplish in a few months the profitable work of destruction which millions of human hands could not do half so well in as many years ; and the sage, therefore, blamed in very severe terms the foolish practice of shooting and destroying birds, which prevails more in Italy, recommending, on the contrary, the process of alluring birds into gardens and corn fields. Among the most deserving birds he counts swallows, titmice, redtails, etc. In a flower garden of one of his neighbors three tall rose trees had been suddenly covered with about two thousand tree lice. At his recommendation a marsh titmouse was located in the garden, which in a few hours consumed the whole brood, and left the roses perfectly clean.

#### THE SEA SERPENT CAUGHT AT LAST.

It will be remembered that the Cape colonists, although profiting perhaps more largely than any of our foreign possessions by their connection with the mother country, magnanimously refused to vote a shilling to the sending over contributions or commissioners to the Great Exhibition. A private individual, Mr. Ghislin, of Hatton-garden, has endeavored to some extent to make up for this want of colonial liberality. Mr. Ghislin's contributions are all contained in two small cases, but they are not without interest, the more especially as one of them professes to solve the mystery (so long a *piece de resistance* with the American newspapers) of the great sea serpent. Mr. Ghislin asserts that the monster that has frightened mariners both young and ancient is nothing but a species of sea-weed, which, when forced to the surface in oceanic commotions, floats about in masses sometimes a thousand feet long, and, to a nautical imagination, presents the appearance of the sea monster which from the days of Bishop Pont-Oppidan down to the present has been the subject of so many marvellous descriptions. Mr. Ghislin, nothing daunted by the traditions, has boldly seized the leviathan, brought him to land, and, having squeezed him into a substance called "laminite," has turned him into excellent handles for knives and razors, and put him to various other purposes to which gutta-percha, india rubber,

and, more commonly, German staghorn have been hitherto employed. As the supply is inexhaustible, this laminite may turn out to be a very valuable contribution to the material of industrial art.

### WHISKY AND NEWSPAPERS.

A glass of whisky is manufactured from perhaps a dozen grains of corn, the value of which is too small to be estimated. A pint of this mixture sells for one shilling, and if, of a good brand, is considered well worth the money. It is drunk in a minute or two—it fires the brain, sharpens the appetite, deranges and weakens the physical system. On the same sideboard upon which this delicious beverage is served lies a newspaper. It is covered with half a million of types—it brings intelligence from the four quarters of the globe. The

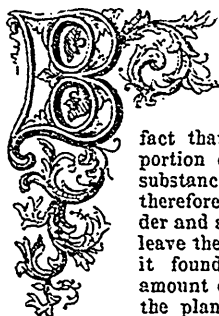
newspaper costs less than the glass of grog—the juice of a few grains of corn; but it is no less strange than true that there is a large portion of the community who think corn juice cheap and the newspaper dear!

### THE GRAIN TRADE OF CHICAGO.

The receipts of grain at this port, in 1861, were 16,587,655 bushels, being an increase over the year 1860 of 2,690,572 bushels. The increase of corn is still greater than that of wheat. In 1860, the total amount received was 15,282,979 bushels, and in 10 months and twenty-five days in 1861, 25,978,795. This large increase is in a measure owing to the blockade of the Mississippi, which prevents grain on the Illinois River, and in the southern portion of the State, from seeking its usual market in Southern cities.

## FARM OPERATIONS.

### GREEN MANURING.



Y this term I mean plowing under green crops for the purpose of increasing the fertility of the soil. It is a well established fact that all plants, derive a portion of their nourishment or substance from the atmosphere, therefore any crop turned under and allowed to decay, must leave the soil more fertile than it found it, by exactly the amount of nourishment which the plant received from the at-

mosphere.

The main object of this kind of manuring is to obtain a plant which grows quickly and produces a large amount of foliage without occupying the ground too long, and at the same time drawing as large a portion of its nourishment from the air as is possible.

But the leaves and stalks are not the only beneficial parts; we want a plant whose roots run deep, and thus raise from a considerable depth substances which are useful to vegetation, but from their depth are not available to our common crops.

The most common mode of green manuring in this country, is the turning under of sods for corn. The benefit derived from turning under a stiff sod for corn is known to all farmers, and some allow the grass to grow as late in the spring as possible, and put off plowing as long as it will do.

We all know that corn is a very exhausting crop, and yet as a general thing it receives no manure but what is derived from the decaying grass and grass-roots which are turned under by the plow.

But there are various other plants which are available for green manuring, of which the common or red clover seems best adapted to our climate. It soon reaches its growth, has

a large amount of leaves and stems, and its roots are large and fibrous, and run very deep. Rye also forms a very good crop for green manuring, but requires more time than clover, is more extensive, and derives more of its substance from the soil.

Johnson writes, "That in no other way can the same crop convey to the soil an equal amount of enriching matter as in the leaves and stems.

One great advantage of green manuring is that these vegetable substances, when turned under, decompose rapidly, and soon benefit the crop. Another is, that grain manured in this manner never falls to the ground through weakness of the straw, but no matter how heavy the head it retains its erect position.

But we must not attribute all the benefit derived to the leaves and stalks, for the roots in somecases contain as much bulk and nourishment as the leaves and stalks. It has been estimated that the weight of the roots left in the soil by a sod four years old is equal to one twentieth more than the weight of the grass grown the fourth year.

The best plan to bring a field under a course of green manuring, is to apply the manure on the sod for corn, which should be followed with oats in the usual manner, with a good coat of clover (say eight or ten quarts to the acre) sown among it. After the oats are taken off, the clover may be pastured lightly during the fall. Next year it should be allowed to grow until three or four weeks before it is time to sow the wheat, when the clover should be well turned under and allowed to remain until seeding time, when the wheat should be put in in the usual manner.

By this plan the manure is in good order to act on the wheat crop as soon as it is sown, and the green clover will strengthen the straw and increase the yield of grain.

This has been my practice for several years. Last spring I sowed one bushel of plastee per acre on the clover, and this fall I shall have a

luxuriant crop to turn under. But I expect to plow a portion of it before harvest, and then plow again (*shallow*) before seeding with wheat and grass seed till next fall—*Germantown Teel-graph*.

### MONTHLY SUGGESTIONS.

The growing season is now over. The fields and trees are denuded of their beauty and verdure, and the forests, and the once beautiful landscapes, look desolate and dreary. No tall grass or waving grain floats in the breezes; no bleating flocks and lowing herds roam cheerfully over the green pastures; no busy hands are seen in the fields, wielding the plow or the spade, the sickle or the fork; but the glory of Autumn has faded away, and the old year has laid off her beauty and loveliness, and is wrapping herself in the winding sheet of snow.

With most farmers in this latitude, the operations of the field have been completed for this year; and we now begin, by consuming the products of the farm,—hay, straw, corn-stalks, coarse grain, and roots—to prepare for another season, and for raising other crops. For several months past the farmer has been collecting revenue from the fields, as a remuneration for his labors; and for several months to come, care should be exercised to see that an honest account, and practice also, is kept with the soil, and that nothing be lost that properly belongs to it, as a remuneration for the crops that it has produced.

Animals are now in winter quarters; and the chief business for this month—unless the weather is very favorable—will be, to care for the stock—retain all the flesh that has been made during warm weather—save all their manure, and do something at thrashing grain where it has not already been done.

#### Management of Straw when Thrashing.

Many of the best farmers in our country are doing their own thrashing, with small one-horse, two-horse, and three-horse machines, instead of employing the large eight and ten-horse machines; and in some instances they have not yet learned the most expeditious way of disposing of the straw, especially where there is but little spare room in a barn. In case the straw is very poor and much weather-beaten, it can be disposed of in the most convenient way, by being thrown into the yard; but when it is bright, it will pay to bind it, as it is thrashed, when it can be handled with great facility, and will not occupy half the space that it will when it is unbound.

But very few men that I have ever met with, know how to bind straw as it comes from the machine; therefore we will pen the *modus operandi*.

In the first place, we want some long straw for bands. Now make a band, and place it on the floor at the end of the straw-carrier, where the straw will fall directly on it. As the straw drops on the band, a man drops on his knees and spreads the straw around in the form of a square bale of hay, about 3 feet long and 2 feet wide, jamming it down and pressing it together until it is large enough to bind, when another

man or boy, with a band in one hand, places his other hand in front of the straw on the carrier and stops it, until the other man removes his bundle and spreads out another band. Then, while one man is binding the bundle and pitching it away, and preparing another band, the first man is forming another bundle.

Two hands are usually necessary to take away the straw when it is not bound, unless it falls from one story of the barn to another. But two hands will bind the straw, and take it away with great ease, if they possess even ordinary skill and activity in forming the bundles.

The advantages of having straw in bundles every one will appreciate. If it be bound in bundles, it may be quickly pitched to the upper part of the barn, where it will not be in the way, and where the room is not occupied; and for every other purpose it may be handled very quickly and conveniently, and at the same time require no more help than when it is not bound.

#### Making Bands of Short Straw.

In case no long straw is at hand, bands may be made of short straw, or of hay, by twisting a long band as a rope is made, and then cut it into short bands—say about six feet long—as fast as they are needed, when forming bundles.

A convenient instrument for forming bands out of short straw or hay, may be made by having a hook attached to one end of the journals of a fanning mill—the journal which supports the wings—with which a band may be twisted as fast as a man can let off the straw.

If the straw is very coarse, it would be better to mingle fine hay with it, so that there would be equal quantities of each. One manner of making the bands is, one man takes a bunch of straw beneath one arm, letting it off as he recedes from the twister, until it is about twelve or fourteen feet long, when the ends are brought together, and the band is doubled and twisted. Another way is to twist a band fifty feet long, or even longer, and then wind it up on a small windlass, which should be hung over head near the place where the bands are to be used. After they have been twisted a few days, they will not untwist when they are cut off into bands five or six feet long. A man and boy will make a large number of bands in an hour, and it can be done on stormy days, when they cannot work out of doors.

#### Sundry Considerations.

Does every animal have a comfortable protection from the pinching cold and pelting storms? If they do not, rest assured that their proprietors are losing money faster than they are aware of.

Put calves in an apartment by themselves, especially at night, where they can be well fed, and where they can lie down and be comfortable. A few hundred feet of boards, and three hours work, will make a comfortable shelter for half a dozen calves. Let them be fed with the finest quality of hay and some cut cornstalks, and cut straw with about one quart of meal, each, daily; then let them have a good bed of straw.

Colts and all young horses that have good teeth, like oats unthrashed, cut up about one inch in length, and moistened with water.

This is a very economical mode of feeding oats to young horses, and I think it is preferable to thrashing and cleaning them, and feeding them separately from the straw.

When there are a few weak and feeble sheep, let them be separated from the flock and placed by themselves, where they will receive a little extra attention.

See that store hogs have a good nest—warm and dry; as they will not thrive well when exposed to the wet and cold of winter.

Let every domestic animal have access, at all times to good water that is near by. When they are compelled to go a furlong or two—as many cattle do—they often drink too much, which gives them the colic.

Cut down timber for saw-logs this month, and let the trees fall on small logs, that they may be ready to be hauled to mill when the first snow falls.

When the ground is not frozen, laborers may work advantageously and profitably at picking stone and other obstructions from the meadows.

When horses are not exercised in some way daily, let them be turned loose in the open field for a few hours. If they are inclined to race about incessantly, attach a piece of large rope, about three feet long, to one of the forward feet. All animals need exercise every day in the open air; and even when the weather is quite cold, if not stormy, they like to be out in the field or yard.

Let the manure of the horse stable be spread around the yard, and suffer it not to remain in a heap and "firefang."

Let potatoes be assorted, if it has not been done already, and let a few bushels of the best and fairest of them be put in barrels for seed, and the interspaces filled with dry sand. By this precaution, good seed will be secured. And who dares to affirm that it is not as important to secure the best potatoes for seed, as well as the best ears of Indian corn? "Like begets like."

Examine the outlets of under-drains, and remove everything that obstructs the course of the water which flows out of them.

If the ground is not yet frozen, plow up a few roods of ground and sow winter rye, and give it a light top-dressing of fine manure. The grain will make most excellent feed, when ground, for horses, and oxen also; and the straw is much better than wheat straw for them to eat, after it has been cut; and it is very convenient for bands for binding corn-stalks, or any thing else.

Many farmers keep their fowls in a cold, half-frozen condition, with only half or two-thirds food enough, and then, because they do not lay well, pronounce them unprofitable.

And lastly, but by no means leastly, do not fail to subscribe for a good agricultural paper and make up your mind to make some improvements in your farm practices for the year to come.

S. EDWARDS TODD.

#### WOODEN THINGS.

Connecticut will lose the palm for inventing "wooden things." A farmer in Canada recently lost a fine sow which had twelve

sucking pigs, and not caring to lose the pigs, too, he set to work and formed a rough model of a sow in wood, being hollow in the centre, the abdomen being furnished with twelve teats, cleverly formed of raw-hide. The interior of the model is kept filled with milk, and the whole of the young pigs suck from the teats of this singular looking wooden sow, and all are thriving well.

#### ORNAMENTAL TREES.

Around every dwelling, of the farmer, there should be a plantation of ornamental trees, oaks, elms, maples, firs, and, indeed all the various species of indigenous trees with which Providence has so beneficently blessed our land. Nothing adds more to the beauty and desirableness of a country residence than the presence of these splendid creations; even the humblest cottage derives a sort of elegance from them, and becomes an object of interest by the mere charm of association. Many of our forest trees, of the deciduous kind, are unsurpassed in elegance, and are so easily obtained and propagated as to place them within the reach of every person. The elm is a vigorous and rapid grower; so, also, is the oak, in all its species, the maple and the glossy beech. Of shrubs and evergreens, there are innumerable varieties, all of which bear transplanting, and flourish vigorously on almost every description of soil.

#### HOW TO KEEP CORN FODDER.

The keeping of corn fodder—I mean sowed or drilled corn for winter use, is considered by some farmers so difficult a matter, that for this reason they object to raising it. If such persons, as well as those who do raise it, would be content to let it remain in the stook until wanted for use, they would find this difficulty entirely removed. I have kept it in good condition in this way into March.

Before I learned how to keep this fodder, I used to stack it, but it would always heat and mould, and become more or less injured. A neighbor of mine, a year or two ago, put a quantity of it into his barn, after he thought it was perfectly cured, and he took the precaution to spread over it a layer of straw occasionally, as it was mowed away, but after all it moulded badly, some of it even to rottenness.

Some tell us to hang it over the beams or on poles, or set it up loosely over the mow. But how is two or three acres of this fodder to be disposed of in this way. It would require a barn as big as Noah's Ark to contain many acres. No, the best way is to stook it snugly and well—tie with two bands, and "let it alone." It will keep better so than in any other way.

The fodder, when cut up, should be bound, in small bundles, and six of these bundles put into a stook. After it has stood three or four weeks, the stooks may be doubled by placing two of them together, and tying the tops; or they may be drawn to a spot convenient to the barn, and the stooks can then be doubled the best way to draw the stooks, if the distance is

not too great, is too use a wagon box. Let, one hand take the stooks and raise them up so that the person in the waggon can lay hold of them, and place them in two rows side by side through the wagon box. About 51 stooks can be drawn at a load. In unloading, let the man in the wagon reach the stooks out to the other hand, who will set them up two together, and tie the tops. By this process no greater number of loads will be made in hauling, but much labour will be saved in re-stocking. And the stooks will be in better shape to stand the weather, if they have been properly handled, than they would be if loaded on to a hay rack, and afterwards be re-stocked. The bundles shrink in drying, and become so loose they are apt to get pulled to pieces if the stooks are opened, and then the re-stocking is quite a job.

The advantage of drawing off the fodder before it is wanted for feeding, is, that it is often difficult getting on to the field where it is raised, in the winter, by reason of the snow and mud. Aside from this, it would be just as well to let it stand in the field.

Corn-fodder should not get too dry, neither should it become *mouldy*. When it is hung upon poles or the beams, the stalks get too dry as hard as rattans. When it is stacked it moulds, and often is rendered nearly worthless. But in the stook it keeps *just right*. Brother farmers, as Mr Gold-medal-saleratus says—"try it,"

**SURFACE APPLICATION OF MANURE.**

The theory that "one load of manure on the surface is worth two loads plowed in," if admitted at all, must be admitted with very essential modifications. As a general rule, progressive farmers, tilling heavy tenacious land, with a clay subsoil, will demur from such a proposition. Practical experience shows that such soils need the manure buried in them, to warm, to lighten, and to destroy the tenacity and thus fit them for the entrance of heat and air, two most important and essential elements of fertility, and without whose agency success in raising any crop cannot be expected.

On a light gravelly or sandy soil, the statement is applicable but in part, and with qualifications. Such soils are usually destitute of vegetable matter, which is needed to make them retentive of moisture and fertilizers. Vegetable matter must be furnished them, either by plowing in green crops, or a free application of manure well incorporated with the soil.

Land of medium quality, neither too heavy, wet and clayey, or otherwise too sandy and gravelly, is the most suitable to be top-dressed. But even in these soils it is a question whether top-dressing is the most economical. The effect of top-dressing is immediate, and makes an exhibit for about two years, but has hardly any effect on the soil, in either modifying or enriching it, and ignores entirely the use of the essential elements of progressive agriculture, viz., light, heat and air. The soil, to be permanently and economically improved, must be so tilled as to take the greatest possible

advantage of these, which necessitates the use of the plow, spade, or their equivalents.

There is a very important advantage which mixing manure with the soil has over top-dressing; and it is a subject which has received too little attention, and has often been entirely overlooked by farmers, namely "the fermentation of the manure in the soil;" or, as a writer on English agriculture expresses it, "*making the whole field into a compost heap.*"

Dana, in his "Muck Manual," explains fully the philosophy of the process. Briefly stated it is this: Fermentation evolves alkaline gases which, uniting with the acids in the soil, produce, in sandy and gravelly soils, a chemical decomposition and disintegration of the silicates and insoluble portions of the soil, fitting them to become food for the roots and rootlets, and these again, as they grow, acting chemically as solvents of inert matter in clayey soils, causing disintegration and amelioration; and in a soil rich in vegetable matter, bringing it into active fertility. Thus a little manure incorporated with the soil, stimulates to action other elements of fertility than what exists in itself, which are both progressive and permanent. By plowing and cultivating, the soil is loosened and deepened, as well as modified, by bringing to the surface and exposing to the influence of light, heat and air, so that what was before inert, becomes an active agent in producing vegetation.

Top-dressing adds to the soil only at best a homeopathic dose. Twenty loads per acre, of thirty bushels per load, spread on land, add one load to eight square rods, or two and one-half quarts to each square yard. How many such top-dressings would add to the turf one half or even one-fourth of an inch, any one curious at figures can determine. The fact that such an application results in an increase of grass, shows that success is due not so much to the quantity as to the action which it generates in the soil. Should this same amount be mixed with the soil by proper cultivation, still greater success might be predicated, for there is added all the advantages which light, heat, frost and air, also fermentation, modification of soil and a choice of grasses, the result of seeding, which top-dressing does not usually include.

Economy would decide that all the elements of fertility should be used if we would farm profitably. We must not use a part and neglect the rest. The nearer we can make the farm like the garden, the more sure the success, and the greater the profit. And this can be done only by a free use of manure well incorporated with the soil, and thorough after cultivation.—*Country Gentleman.*

**A FEW EXPERIMENTS WITH MANURE.**

Messrs. Editors—After planting was over last spring, I took some pains to make data for a capital article for the *COUNTRY GENTLEMAN*. Please bear in mind that I am one of the new school farmers, who read the papers, and believe more or less in many of the things therein laid down as facts.

From my reading and observation I had



made up my mind that high manuring was, as a general thing, undoubtedly beneficial to corn and roots, and relying upon this fact I instituted a few experiments by way of illustration.

When the corn was 3 inches high I selected two drills, as nearly alike as possible. One of these I treated to a good quantity of cow manure by burying it on each side of the row and digging it in with a hoe. To the other drill I did nothing, but marked the fence, indicating in all cases what was done to each row.

Selecting other two equal rows, I treated one of these to the same, applied on the surface.

One of another couplet of rows I treated to unleached ashes, dug in.

One of another, to unleached ashes on the surface.

One of another couplet, I treated to slaked lime dug in.

One of another, to lime on the surface.

One of another, to salt on the surface.

One of another to bone dust in large quantity, dug in.

One of another to the same on the surface.

One of another to hen dung, well pulverised and divided by loam.

One of another to the same on the surface.

One of another to glue factory waste (being animal matter, hair and lime, and quite putrid,) well dug in. One of another, to the same on the surface.

Then I went to the root patch of five acres, and applied lime, ashes, bonedust and hen manure to certain rows of carrots and turnips there, in the same manner as above, placing stakes at each row.

Having heard much of the benefit of running the cultivator close to the corn so as to cut the roots in a measure, I tried the theory of root pruning. Having selected two spears of corn of equal size, I cut down with a sharp spade on two sides of the stalk, and two inches therefrom, to the depth of a foot. I thus served about 20 spears, leaving a flat stick at the one which was root-pruned, and a round stick at its equal in size, as a mark. The corn was at this time about 4 to 6 inches high.

I next traversed the root patch and a part of the corn, at right angles to the drills, applying ashes quite thick, broadcast, upon a strip 6 feet wide. To another strip across the field I applied plaster broadcast.

Now I submit that I had good reason to count on some results worthy of a record in your journal—something interesting to your readers, and valuable as throwing some light on the comparative merits of the manures. But, Messrs. Editors, it is a stubborn fact that the result of all these experiments was just *nothing* at all. No effects followed the causes applied, so far as a close but impartial eye could discover. I visited the fields every day during all the stages of growth, and in the harvesting, and at no time could I discover that any row or plant treated in any of the modes specified, was any better or worse than those not so treated. Not that the corn was so uniform in size—quite the reverse. I never knew such difference in my fields, but there was about the same amount of good and poor

in each drill. Those spears marked equal at first, were equals to the last, notwithstanding the treatment, manuring, *root pruning*, &c.

Now, this result or failure was entirely unexpected by me, and might seem to controvert all theories in favor of manures. Such an universal failure of well established manures, applied both on the surface and at the roots of the plants, might, with some, prove them to be worthless. But I came to no such conclusion.

The results strike us as at once peculiar and astonishing. But so are the results of all my planting this season. With more manure, better planting, and better tilling than formerly, my crops have not been proportionally improved. They are 25 per cent. less than they should be, and 15 per cent. less than they were last year. Pasturage was very poor; potatoes not over 225 bushels per acre; the early sorts were not full sized. Beets were not over 1,000 bushels per acre, instead of 1,200, and my carrots, which I recently had occasion to mention, although a large yield, are harvesting much less than they should have done. These facts are as unaccountable as the results of the experiments; and both results, taken together, indicate that some *general* cause has operated on all my crops more powerfully than either the manure or tillage, or the manurial qualities of the soil, however and whenever applied. Now what causes *can* so act—heat, air, light, frost, wind, dews and rains?

This course of reasoning brings us to a fact, or the fact which is sufficient to solve the whole mystery of the experiments and the crops—that is want of rain. I believe, from constant observation, that there has not fallen more than two inches of rain on my farm, since the fall of 1861 up to the present harvest or the maturity of the crops. There was, indeed an unusual amount of snow last winter, but it passed off without rain, and much of it when the ground was frozen, so that it had not the usual mechanical effect on the land by way of dissolving, slaking, and pulverizing the soil and manures therein. All springs and wells in my immediate vicinity, have never been known so low as this season.

Our crops did not entirely dry out and die as might be supposed, for the heavy dews supplied moisture sufficient for the life and growth of the plant, but produced *no effect like rain*, on the soil and on the inert manures therein contained. In fact there can be no effect on the soil like rain, except the rain itself. It is a wonder of which we as yet know but little. Its mechanical effect alone, in changing, by its powerful expansive agency, the relative position of all the particles of the soil, and that so gently as not to injure the frailest fibre of a root, and in diffusing the heat and the gases which by its agency are set free, is a phenomenon which man, with his highest mechanical power, can only fail to imitate.

Take for example a cubic foot of natural soil or of sand from the pit, just as it was left by the action of water, who can remove it or disturb its natural form and still preserve its bulk, or light and open structure?

Dig a hole in the ground, and the same dirt

will not fill the hole by one-tenth, and often more. Now until man can so manipulate that earth as to restore its original bulk, he is but a feeble imitator of nature in this respect.

This property of earth, known among engineers as "shrinkage," is an admitted fact—to many, a wonder. I do not know as it was ever before referred to the action of water. Therefore I take the liberty to illustrate a little further the manner in which I think the effect is produced. It seems paradoxical that water should pack both heavy and light.

Take a pailfull of water and scatter in a handful of sand. So another, and observe as the sand falls through the water, it is in degree buoyed up by it, or it is deprived of a part of its weight, and falls through the water more slowly than through the air, and therefore as it touches the sand in the bottom, rests upon it more lightly—the particles of the sand resting perhaps on their angles, or partially floating like a water-soaked log in the bottom of the river. In this manner fill the pail with sand, and the water is mostly displaced. Now it is evident that the particles of sand do not yet rest down upon each other by their full weight, but they have assumed a certain bearing and position with regard to each other.

Now carefully open small holes in the bottom of the pail, and drain off and dry. Probably small earthy particles have been carried off by the water, as may have been the case in our sand beds, and in all our soils to some extent by the constant percolation of the water.

If the pail has not been disturbed, it is full of sand in its lightest possible form. Disturb it, and the particles tumble from their delicate and open positions; taken in their half buoyant state, the thousand little arches of equilibrium are destroyed, and the mass falls to nine-tenths of its bulk, never to be restored except by the same cause.

To refer to the many processes by which water alone, and water in connection with heat, influences the structure of soils, to say nothing of its chemical agency in the preparation of food for plants, is quite beyond my understanding. I allude to it only to bring to mind the great influences of these agencies as the probable cause of the failure of my experiments, and, in a measure, of my crops. I have learned from this experience that other conditions are requisite in the production of crops than manure and tillage, and that in judging of the value of manures from the results of single experiments, all other conditions must be closely considered, or we may condemn where there is no fault, and approve where there is no merit.

*Country Gentleman.*

#### DEEP vs. SHALLOW PLOWING FOR CORN.

This may not be deemed a proper period to treat on such a subject, some persons thinking, perhaps, that all observations made on the subject will be forgotten before the time for plowing next season. Still it must be remembered that the present race of farmers are not forgetful, that their motto is onward, and that the

present is the time for making observations, noting experiments, and laying up a store of knowledge to aid them in their labors during the ensuing season.

Experiments in reference to deep and shallow plowing have often been tried, the results (at least with us,) being in almost every case in favor of shallow plowing; still there are many who continue to plow as deep as possible, generally trying to tear up some of the subsoil, to the detriment of the crop. With our soil, (rather argillaceous) three or four inches in depth is sufficient, for then the loose vegetable mold is on the surface, in which the young plants can get a good, strong, healthy start; if they get this, and a good cultivator is used freely, with proper hoeing success is almost certain.

I do not think sufficient pains is taken by many with corn, when it is small, plowing too deep, neglecting it while young, and calculating too much on making a good crop after it is irretrievably dwarfed. The soil must be in excellent order, or the young plant assisted to a vigorous start by a handful of home made guano or manure spread on the surface, or by a part of a forkful of manure thrown on each hill; even in this way one man will cover an acre per day, and the yield be doubled. I have noticed many fields of corn this season, plowed deep and shallow, and in every instance the shallow plowed is the best. One person whose field I noticed, informed me he should not have one-third the crop that he would have had, had he plowed it shallow. The cold heavy soil being thrown on the surface, the corn was so injured that no after culture could remedy the evil.

#### SEED WHEAT.

After alluding to the results of Mr. Hallett, of England, published in the *Genesee Farmer* for June, in selecting seed wheat, the *New York Tribune* urges every farmer to examine the ears of his wheat and select out the fairest for seed, and says:

One man gained celebrity for his seed, which he called "barrel wheat," from the peculiar mode of saving it, which was by whipping sheaves over a barrel in such a manner that none but the projecting heads were shelled, and these were generally the heads of the longest stalks, and best heads which first ripened.

Never take seed from wheat that has been thrashed by a machine, unless you can afford to lose ten per cent., for that amount at least has been injured by blows of the thrashing spikes, so that it will not vegetate. This has been proved by dissecting the grains and examining with a microscope.

Never take seed promiscuously from any pile of wheat. With a good mill you can screen out one-third or more.

Never sow wheat that is not absolutely free of all other seeds, smut included, for what you can not screen and blow out you can get rid of by washing.

#### SEEDING WITH RYE IN SUMMER.

We were recently in conversation with P. G. Bauder, Esq., of Winnebago Co., frequently

mentioned in our columns as a breeder of Cotswold and other sheep. The talk turned upon the subject of seeding for pasture. He is a strong advocate of seeding with rye, and gave the following as in his experience, the best method.

Plow in any of the summer months, mix timothy and clover, half and half, ten quarts to the acre; rye one and one half bushels; harrow all in well and roll with heavy roller.

In a few weeks the rye will completely cover the ground, affording the best of summer and fall feed for either sheep or cattle. The soil has been made so compact with the roller that the tramping of the stock does no injury to the timothy or clover roots. The rye, if properly fed down, does not seed, and will live for about three years. The grass and clover continually thriving form a good sod, even in sandy soil, making of it itself a complete pasture by this time.

His success in this way has always been good. Has never lost a seeding from drouth, which he considers the great cause of failure in seeding with oats or other crops in spring, or even with fall grains, that are removed at harvest time, exposing the tender grass plants to the scorching sun of summer. From the experience of Mr. B. and others mentioned by him, we can confidently recommend this method of seeding to all our northern farmers. Especially must it prove valuable when from any cause there is a necessity for a sudden increase of pasture. A few weeks serve to furnish sufficient and reliable feed.

#### HOW TO STOW POTATOES AND PRESERVE THEM FROM ROT.

MESSENGERS. EDITORS:—I enclose a receipt for keeping potatoes, which may be useful to farmers, &c., as the rot is exceedingly prevalent. I have tried it for four years and it has proved a sovereign remedy as I have not lost a bushel in that time after they were harvested, though in some cases they were half diseased when taken out of the ground.

Dust over the floor of the bin with lime, and put in about six or seven inches deep of potatoes and dust with lime as before. Put in six or seven inches more of potatoes, and lime again; repeating the operation till all are stowed in that way. One bushel of lime will do forty bushels of potatoes, though more will not hurt them—the lime rather improving the flavor than otherwise.

If you are disposed to insert the above in your paper I thank you would be doing the public a great favor.

R. T. PARSONS.

#### THE TURNIP FLY.

In England where the turnip is an important crop, there have been many "remedies" applied for the destructive little insect, the turnip fly. At a late meeting of the Royal Agricultural Society, Mr. Fisher Hobbs, a member, presented the two following remedies which he had used with great success:

FIRST RECEIPT.—Take 1 bushel of fresh white gas ashes, or fine wood ashes may be

used instead of gas ashes; one bushel of fresh lime from the kiln; 6 lbs. of sulphur; 10 lbs. of soot well mixed together, and got to as fine a powder as possible, so that it may adhere to the young plant. This is sufficient for two acres when drilled at 27 inches, to be applied early in the morning when the dew is on the leaf, with a broadcast machine or sprinkled with the hand carefully over the rows. If the fly continues troublesome, the process should be repeated, always when the plant is damp. In light land it is best to make the drills on the flat, the ground being well prepared to receive the seed.

SECOND RECEIPT. Take 14 lbs., of sulphur; 1 bushel of fresh lime; 2 bushels of road scrapings, or a substance of mould where road scrapings cannot be obtained, per acre, mix together a few days before it is used, applied very early in the morning, or late at night, in the same manner as directed in No. 1, using the horse hoe immediately after.

#### CARROTS.

I know of no esculent root, that contains so many excellent qualities, and raised with as little labor as the carrot. While the potato suffers from the dreadful rot, the carrot remains unharmed, for which I have found it to be an excellent substitute, and instead of being of inferior qualities, it certainly far exceeds it. My mode of cultivating it is:—First be careful in the selection of the seed, as there are several different varieties, all varying in their degree of super-excellence. The large German variety is by far the best, either for table or for stock. Choose light loam, or or dry, sandy soil, well manured, and if possible, plow ten inches deep, and subsoil. This will increase your crop at least one-third. Having the ground well prepared, with a smooth surface, you can sow the seed as thick as you would turnip seed; then, after they come up, thin where they are too thick, and keep down the weeds. My favorite method is to plant in rows twelve inches apart, and hoe them well. They should be planted just as soon as the weather will permit in the Spring, and you can gather as you need them. A hard freeze is always necessary to give them a fine flavor, and the longer they remain in the ground the better will be their taste. Upwards of five hundred bushels can easily be raised on one acre of ground, if rightly cultivated. And in feeding stock, it will go as far as many bushels of potatoes or corn. There is nothing like it for fattening cattle, and horses eat them with great avidity, but they should not be fed on them alone, as they are of too cleansing a nature. Farmers, try them, and let us hear the result!

#### A FEW HINTS ABOUT THE FLAX CROP.

We are satisfied from personal experience, —that our farmers have a very imperfect knowledge of flax agriculture; and we are equally satisfied that they may raise profitable flax crops. No fabrics are more beautiful than those of fine linen; they are dearer than the finest silk.

We have a spool of yarn in our possession, made from Belgian flax; and, although it is not the finest made, one pound of it will extend forty miles.

No fine flax has yet been raised in Canada, and never will, unless great attention is paid to its culture. Some kinds of flax are sold in Belgium as high as \$1000 per ton, while the lower grade of Baltic flax is not worth more than \$200. The great difference in the price of the two, is owing to their cultivation.

The best soil for flax, is a dry, deep rich loam, with a clay under-soil. It should be well drained, and plowed deep, using a sub-soil plow. It is advisable not to grow flax oftener than once in seven years, on the same field; it should follow a crop of oats, which has succeeded one of potatoes; or fallow wheat or rye, which has succeeded potatoes raised on broken up lea land. If the field is not drained—as is still the case with almost all our farms—the soil should be thrown into ridges, with deep furrows at the sides.

The middle or latter end of May, or perhaps earlier, is the best sowing time in Canada. After the ground is harrowed twice, it should be gone over with a roller, then dragged again with a harrow, having fine, short teeth. The seed may then be sown, not across the ridges, but up and down, then harrowed three times,

first up, then across the field, (angleways,) then down the ridges, finishing with a light rolling. Generally speaking, our farmers do not pay sufficient attention to harrowing, and rolling their fields, indeed very few of them employ a roller at all. Every farm of one hundred acres should be supplied with three harrows—the angle coarse drag, a square harrow, with a somewhat finer and greater number of teeth, than the drag, and a harrow with fine adjustable teeth closely set together.

Plump, heavy, shining seed, alone should be used, and care exercised in its selection. American flax seed generally produces a coarse branched stem. Dutch and Riga seed are held to be the best. If farmers wish to cultivate flax for fine fibre, it should be sown thick not less than two bushels to the acre; if for the seed, they should sow it thin, one bushel to the acre. Thick sown flax grows tall and straight, producing fine fibre, but little seed; thin sown flax grows coarse and branches out, producing a great quantity of good seed, but coarse fibre. Another time, we purpose giving to the readers of the *Agriculturist* numerous valuable experiments made by us on the flax crop; also original ideas on securing the crop, and preparing it for market, so as to obtain the highest returns.

## BREEDER'S DEPARTMENT.

### MONTHLY SUGGESTIONS.



### VENTILATION OF STABLES.

Many farmers ventilate too largely, others do not ventilate enough, and some not at all. A moment's reflection will convince almost any one of the great importance of furnishing animals with a good supply of pure air. When we go into a stable, and the ammonia arising from the manure makes our eyes smart, or if the air appears at all impure, we may rest assured that there is a deficiency of pure air, and the health of animals will be seriously affected, if ventilation is not more perfect.

I frequently step into the stables of hotels, and in the morning the stench and impurity of the air is enough to sicken a healthy horse

in one hour. It is no wonder at all that there are so many sick horses, where so large a number are confined within a small stable, where ventilation is very imperfect; but it is a great wonder that they do not die right out, from being confined in such impure apartments.

Impure air in stables always rises to the upper side of them. Therefore if there be an opening over head, the foul air will escape, and pure air will take its place; whereas, if there are nothing but small cracks, or other apertures in the sides of the building, the air will become very foul in a short time. Let the cracks be well battened, and let the doors be fitted tight, and then cut a hole from three to four feet square in the floor over head; and if the building is not a spacious one, there should be a ventilator at the top of the roof. Stables should have windows, also, in the sides, or behind the horses, for admitting the light, and which may be thrown open when the weather is not freezing cold. When the manger or rack is formed against the outside of the stable it is a good arrangement to have a small dark window before each horse, which will slide open and shut easily, so that each horse may thrust his nose out when he desires, and inhale the fresh air.

Great caution should be exercised in ventilating stables, that the animals be not exposed to a current of cold air. Currents of cold air should never be allowed to enter a stable through large cracks in the floor, as horses will most assuredly contract cold when thus exposed. When the weather is not freez-

ing cold, windows should be opened, and sometimes the doors also.

#### MAKING MUTTON.

There are hundreds of farmers through the country who have the materials to make a respectable flock of fat sheep, and thus make a large pile of the best manure, which would pay well for all the labor of taking care of the sheep during the winter, in the extra amount of grain that the manure would produce the next season. These farmers alluded to, have large stacks of straw, which in some instances are allowed to stand until they rot down and waste away.

Now, in order to use up straw economically, in the first place erect temporary shelters for the sheep; but good sheds are better. If there are no boards at hand, one man with one or two hundred rails, can erect in a day or so, a straw shed sufficiently large to shield a hundred sheep. Then make some grain troughs and straw and hay racks. Then select a flock of wethers and dry ewes, and commence a regular system of feeding them.

It has been ascertained by experiment, (see L. A. Morrell's Am. Shepherd,) that sheep are more fond of a variety of food than any other domestic animal. Therefore let them have all the straw that they will eat, during the entire day and night also, and give them a little hay daily—say enough so that each one will get two or three mouthfuls. Let them have daily, besides this, a few cornstalks; not a full feeding—only a few mouthfuls each. In addition to these things, give them a few roots or apples cut in small pieces. Then, every evening feed them about half a pound of Indian corn and buckwheat. About the middle of winter, increase the quantity of grain to three-fourths of one pound each; and in March let each one have a pound each—and if they are large sheep and good feeders, they may have a pound and a half each. But if they get any roots, or fruit and hay and cornstalks, as directed, one pound of grain each will be sufficient. Let them have access at all times to a tub of salt and to pure water. When grass comes, let them run to grass about two weeks, and you will have mutton that is really mutton. This is the epitome of the process of making good mutton.

#### POUNDS OF MILK FOR A POUND OF CHEESE.

"O. B. P." of Pottsdam, N. Y., gives in the American Agriculturist the following account of his experience to determine the question, beginning May 15th and ending October 20 1861. All cheese made prior to Sept. was shipped 12 the remainder Nov. 26. The night's milk was set three to five inches deep in tubs and pans. In the morning it was skimmed, the cream being made into butter, (7 lbs. to 100 lbs. of cheese) and the morning's milk added. Cheeses made in May required 11 pounds of milk for one pound cured cheese; those made in October 9½ pounds, the average of the season being 10 pounds. Cheeses made in May required 9 pounds of milk to 1 pound of green cheese; those made in October 8½ pounds, the average

of the season being 9 pounds. September 30th he made cheese in the proportion of 8½ pounds of milk to 1 pound of cheese when 60 days old, and he estimates the shrinkage on 100 pounds of green cheese made in May, at 17 pounds, and that made in October at 7½ pounds to the 100 pounds, the average shrinkage being 11 pounds in the 100.

#### CLEANING MILK VESSELS.

A correspondent of the *Cincinnati Gazette* truly says, there is no product of the farm that presents so much difference as butter. This arises chiefly from using vessels for holding the milk, and utensils in making the butter, which are soured. In my notice of the effects of having soured toughs in sugar-making, I stated that acidity was fatal to good sugar-making. It is not less so in butter-making. Milk has a peculiar acid very easily formed, which entirely takes away that rich, sweet, fine flavor, belonging to good butter. A very little soured milk or cream on vessels rapidly generates enough acid to take away. To avoid this, great care is requisite. Cleanliness only is not sufficient, in having the vessels well washed, but they must be carefully washed in boiling hot water, and should be boiled in it also. But as the cream is very apt to stick, even in good washing, when the vessels are boiled in water, *some pearlash or soda should be put in it*, which destroys any acidity that may be about the vessels. They should then be well sunned. I have known some good butter-makers who dispensed with the sunning when soda was used, but both are to be commended.

#### ON THE DISTENTION OF THE ABDOMINAL VISCERA OF COLTS.

The custom of many breeders of horses, after weaning, and the colts have forgotten their dams, is to allow them to obtain a precarious living as best they may, until the time of usefulness in their various avocations has nearly arrived; such animals, should they survive the age of colthood, must necessarily be comparatively worthless, and as a case in point, I will proceed to give the details of one presented to my notice.

The animal, an entire colt, one year old, of fashionably descended blood; dam a Longford mare, sire imported Bonnie Scotland. In consequence of the death of the dam when the colt was three weeks old, it (the colt) was obliged to find sustenance from coarser, more innutritious and indigestible food, and of greater volume than that furnished by nature for so tender an age, viz., the mother's milk. The powers of the stomach were unfitted for the reception and digestion of granivorous and herbivorous matter; but a great amount in a small volume of nutriment being demanded to develop the proportions and sustain the life of the animal, the continued engorgement of the alimentary canal necessarily established a chronic distention of the parts and other vital viscera.

It may not be considered out of place here to describe the anatomy of the stomach, in a cursory manner, the more fully to understand

the abnormal effect produced by distention. It has an inlet and an outlet; the first, the cardiac orifice for reception of food, internally lined by a mucous covering; the latter, the pylorus by a serous membrane. It is supplied with blood by the coeliac axis, with nerves by the cerebro-spinal, sympathetic and par vaginal, or pneumogastric nerves; it has four coats, the peritoneal or external tunic, muscular, serous and mucous, and the cellular (some physiologists contend there are but three proper coats to the stomach). The intermediate coat is the muscular, the fibres of which run in three different directions, constituting three layers; the superficial ones are longitudinal, those of the middle layer are circular or ring-like; the fibres of the third layer take an oblique direction. The muscular coat being the agent of the stomach in contraction or expansion, it will now be readily seen by its conformation, that continued distention with food of a coarse indigestible kind must produce results of a pathological character; dilatation must inevitably follow, to what extent will be governed by surrounding circumstances; but let it be so slight as to be just discernible. I contend the future usefulness of the animal must be somewhat impaired, whether for the plow, the road, or the turf; a lesion of the attachment of the fibres, or of the fibres themselves is the result. It is one of nature's sure laws that where or whenever a violence has been committed on the animal economy, morbid state and action must inevitably be the result; altered structure has taken place, which all the solicitude and care never will be able to replace in a physiological state. The digestive organs once impaired as above leads to a train of diseases too numerous to place in a communication of this kind, but I will immediately present this case for consideration. I knew not but that the colt was in its usual state, until apprised of its death three days subsequently, at which time I, with a veterinary surgeon; made an autopsy of the case. (I may here remark that I received the degree of V. S. in England, and will be happy to answer any questions by farmers on subjects within that province.)

The stomach proved to be the subject of intense dilatation, its parietes or walls remarkably thin—ruga obliterated—filled with food, but an almost absence of the gastric fluids. The same state characterized the entire alimentary canal; the cœcum and colon particularly partook in a like manner, and same degree of diseased state of the stomach, fœces in rectum knobby and unyielding.

The heart next claimed our attention, in consequence of its enormous size; dilatation of right ventricle present, walls of the apex very thin and remarkably flaccid, tricuspid valves normal, chordæ tendens much enlarged.

Colts that are grain fed, say a quart or two per day, after being weaned and allowed to run in pasture as late as the climate will allow in the fall, will generally be found in fine condition to withstand the rigours of our winter; when an increase in the amount should take place, good hay substituted for grass, and, if possible, carrots should occasionally be al-

lowed, as they are peculiarly excellent for the purpose. Warm sheds or stables should be easy of access to them during the winter and cold storms of early spring, with a continued supply of pure water, and fine salt should continually be within their reach, that they may readily partake of when prompted to do so by nature. A scrupulous regard to cleanliness must be observed, otherwise parasites or other forms of disease may infest the skin. By such a course they will never depart from symmetrical proportions, or an undue enlargement of the abdomen or its contents by dilatation.

#### MARAUDING CATTLE.

Cattle may be educated to do almost anything. A quiet cow may be converted into a skillful jumper in a single season. The first requisite for such training is short feed, resulting from over stocking. The second is low fences; and the third, tempting crops of corn beyond these low fences. In the spring, grass is usually good, corn and other crops are small and uninviting; but during the midsummer periods, when the pasture is dried up, the process often begins. One or two rails are accidentally blown from the fence: the quiet and orderly animals stretch their heads over to reach a morsel of the tall grass; they throw down accidentally two or three more rails, and finally leap over. The owner drives them out as soon as they have learned the difference between delicious food on one side and short commons on the other, and puts up the rails. They have already learned to leap a little, and the next day they improve and go a rail higher. Another rail is added, and the process is repeated until they become quite expert.

#### DAMAGED GRAIN AS FOOD FOR CATTLE

We have frequently remonstrated against people selling inferior or damaged grain, and at the same time selling their cattle and sheep because their supply of turnips or other keep had become exhausted. In both cases, that of their inferior grain, as well as of their unfinished cattle, etc., they have been obliged to accept low prices—low as compared with the value of good grain and of well finished beasts.

Were those who have inferior grain to give it to live stock, instead of selling it in its natural state, they would find that it would return them a much better price when converted into beef and mutton than when sold on the stand of a grain factor. This is, or ought to be, so well known a fact, that we are frequently surprised to find any who have beasts or sheep ever offering inferior grain for sale. They ought to understand that the best market for such material is Smithfield and not the Corn Exchange; and, consequently, that in order to bring it to the best market they must give it as food to their beasts and sheep, and thus send it to market on four feet, instead of being conveyed in sacks on a cart. By following this system they have also other advantages. An unfinished, half-fatted heifer or sheep is a most unprofitable description of animal. It has consumed a certain amount of food, and it has in consequence of

this passed through certain preliminary stages in the meat manufacturing process; but a stop is put to the process at the very point when the preliminary stops are beginning to tell, and a sale of the animal at that period is neither more or less than throwing away all the feeding which has been given up to that period. On the other hand, if the owner were enabled to carry on the feeding process a little longer, the balance would lie in his favor, and he would reap the benefit of all he had previously done.

Instead, therefore, of selling inferior grain, we strongly advise all who have such material to give it to their fattening beasts, or sheep, or other live stock along with roots, etc. By this means the supply of turnips, hay, etc., will last longer, and will produce better results; the manure heap will become increased, and the final wind up be of a much more satisfactory nature in all respects. And it is not even in the case of damaged grain alone that we advocate the conversion of grain into beet and mutton. We know, of a certainty, that good grain may be given to the fattening stock with profit; that, under ordinary circumstances, the use of grain in this way will pay better than selling in its natural state. Some may say, "Oh! but you destroy grain as human food." No such thing. Beef and mutton are equally human food, and the preparation of beef and mutton yields rich food for future crops; so that the use of grain as fattening material for stock is the very reverse of destruction.

We advise, therefore, every one who has damaged grain to put it to the use we have mentioned, instead of selling it as grain, which in effect will be throwing it away. But whilst we give this advice, which our own experience of the matter, as well as that of many others, tells is a sound opinion, let us also press upon the consideration of our readers how far the lateness of the harvest has been attributable to neglect and mismanagement. For example, you cannot sow when the land is in a wet state, nor does grain ripen so early on wet soils as it does on dry or drained lands. When therefore, first the sowing of the seed and then the harvest has been retarded from want of drainage, we are fairly entitled to say that it has been caused by neglect on one side or other, and if the cause be not removed—the cause which induced the late seed time and the late harvest—then similar results must follow as a matter of course.

We have seen—just this very year, for instance—the stack-yard of a well drained and well-cultivated farm filled two or three weeks ago, and we have seen the crop grown on another farm, undrained and otherwise not very well managed, and a good deal of that crop is still out. Now, who is to blame in such a case as that? Surely, not the "climate," that wonderfully handy scapegoat for many shortcomings; for the climate cannot be very different when there is only a thorn hedge to mark the boundary. Drainage is a matter which must be attended to much more than has been the case; for, so long as it is neglected, we shall have late seed-times, late harvests, rotten sheep, and generally diseased stock.

## THE MANAGEMENT OF HORSES.

A horse is a clean animal: a good groom must be a clean man; the stable therefore must be clean. But not only must the stable be kept clean, the animal itself also must be kept clean. Soft soap is cheap, and this frequently used in washing the heels, with the feet also kept very clean, will add much to the comfort of the animal; and will reward the owner for the little extra trouble it will occasion. My practice is to stop the feet *all round* every night, whether the roads are wet or dry. My horses' feet are kept as comfortable thereby, after being pounded on the hard Macadamised roads by day, as if they were upon the cool grass all night. As an incentive to the practice, let me add, nothing will save the horsekeeper's pocket more than this practice. I have said *all round*; it serves to keep other and heating matter out of the hind feet. All dry stopping should be picked and washed clean out of the feet every morning. Regularity in feeding is also essential, and I never vary the number of feeds. I feed four times a-day, imperial quartern. If I want to lessen a horse's quantity, because he is doing no work, I give less in each feed; if I desire to increase the allowance because of work, or in the case of a well-bred horse still rising, in order to get extra growth forward a year, longer in his withers and crest (and I look upon this as the year which imparts beauty to the horse), I increase the quantity in each feed, as the case may be, from one quartern up to half-peck feeds, or eight quarterns a-day; but I never vary the number of feeds. To drop one feed with well-bred horses would keep them pawing and fretting, watching every foot-step and movement, and would throw them out of condition more than the subtraction of half their day's allowance, retaining the *number* of feeds. We hear much of "bruised oats" in the present day. I must say I prefer allowing the horse to bruise them himself, as I think it promotes digestion. If they are inclined to bolt their corn, a little chaff generally corrects that. But I have scarcely ever failed in bringing horses to eat their corn leisurely; with a young horse never. Let the racks be thoroughly cleared every morning—no hay left lying before the horse; then with every feed let a handful of prime sweet hay be placed alongside the corn, and it will be found that the horse will pick at the hay as he eats his corn, and eat it slowly and bruise it. I wish I could impress it upon every horsekeeper, if only for the sake of the poor horses themselves, that cleanliness and regularity are the essentials for saving money in "horse flesh." I can say I never had a sick or a lame horse in my life, and I never paid a 6d to a veterinary surgeon. Yet it has ever been admitted by all who have seen them, that horses in higher condition, or better order in every respect, were not to be found in any stable in the land. I have had two horses shot within a few weeks, one aged, and which I had worked in a heavy carriage for the last 9 years, and the other between 30 and 40 years old, and which had been in the service of my family from a colt; yet neither under the treatment he met, had been "sick or

sorry" in his life. Shortly before I engaged in my undertaking afloat amongst the fleets, I buried a horse which I had driven in company with others upwards of 33,000 miles before I returned with him to England. From the day that I put the collar on him to the last moment, he never complained in any way, but showed throughout a beautiful coat, indicating the highest possible condition. When I obtained him, 4 years old, he had contracted heels, but in 12 months with constant stopping and careful shoeing, I succeeded in producing a good and sound foot. Other horses that I drove shorter distances always maintained the same high health. Save a bran mash, and a little nitre and flowers of sulphur occasionally; physic I kept outside the stable door from the beginning of January to the end of December in each year. For lampas in young horses I find a little common salt rubbed to the roof of the mouth sufficient, and the same given in milk, for worms, every morning fasting. These trifling things, added to the important daily prescription of cleanliness and regularity, will prove as oil to the wheels, and keep them going without complaining.—*A little Book for every Man who keeps a Horse.*

#### ABD-EL-KADER'S RULES FOR A HORSE.

The following are the rules laid down by Abd-El-Kader for indicating the points of a horse of pure race. He ought to have three things long, three short, three broad, three pure. The three long are the ears, the forehead, and the fore-legs; the three short are the bone of the tail, the hindlegs, and the back; the three broad are the forehead, the chest, and the quarters; and the three pure are the skin, the eyes, and the feet. He should have the withers high, the flanks fine, not fleshy, the tail well furnished near the root, the eye inclining as if to look at the nose, the forelock full, the nostrils wide their cavities entirely black (if partly white it is a sign of inferiority); the fetlocks small, the hoof round and hard, the frogs hard and dry. He should be able to drink from a stream level with the surface on which he stands without bending the forelegs. The colours most prized are a dark bay or chestnut (the latter esteemed the latest), brown or black. Black are, however, thought less safe on rocky ground; white are considered soft. Roan, dun, and iron gray are little esteemed. A blaze, if all down the face, is approved, so are three white legs; but the rules on this matter are very fanciful. All these doctrines are supported by an infinity of proverbs, poetical quotations, and religious maxims, but it will be seen that they accord generally with our own ideas. Much importance is attached to a well lying shoulder; and to breadth of chest, both as a security against interfering and as giving room for the lungs. A practical rule for recognising the development of the forehead is to measure the distance from the extremity of the bone of the tail, along the back to the centre of the withers, then from that along the neck and crest, down the face to the upper lip. If the two measurements are equal, the horse will prove good, but of middling speed. If the length is greater behind than be-

fore, the animal wants power. If it is greater before than behind, he is excellent, and the difference in measurement the greater his superiority. The count d' Aure, late chief of the School of cavalry, and now inspector-general of the imperial studs, assures Gen. Daumas that he has tested this rule in more than a hundred cases, and found it unfailling.—*London Review.*

#### RINGBONE CURABLE.

Dr. R. Thompson writes lately to the *Ohio Farmer* that to cure the semi-osseous deposit, called ringbone, the animal must be thrown and well secured; with a strong scalpel make a crucial incision over the highest part of the tumor. Having dissected the four angles of the skin, back to a line corresponding with the base of the tumor, expose the entire surface of the morbid mass to view. The next step in the operation is the removal of the unnatural growth by the appropriate use of a carpenter's three-fourth or inch gouge; either manipulated with the hand alone, or assisted by the gentle use of a light mallet. With a proper knowledge of the parts involved in the operation and due care, there need be no fears of opening the articular capsule. Leaving the surface of the bone as smooth as possible, the angles of the skin are brought firmly together by means of a strong needle and cord the size of a slender fishing-line. A few slips of adhesive plaster will add much to the security of the dressing, and consequently to the more speedy healing of the wound. To these ends, also, the quietude of the horse will contribute greatly. Over this a few turns of bandage may be thrown and firmly secured. Should the parts become swollen, tepid water and whisky may be freely applied by pouring every eight or ten hours, until the swelling subsides. Whether there is anything new in this, I do not pretend to say; but this I do know, that by this safe and simple operation I saw a horse cured of the "ringbone" within the space of two weeks, where previous to the operation he could scarcely mark the ground with the tip of the hoof, so great was his suffering.

#### BUTTER-MAKING—AND BUTTER.

The origin of butter-making is unknown. From time immemorial butter has been made and used by the natives of western Europe. Little is said about it by ancient writers. Galen and others do not mention it as an article of diet, and it is probable that neither the Greeks nor Romans employed it in cookery, nor set it on their tables as food, in the same manner as it is enjoyed by us. As butter melts, and becomes liquid at 90° Fah., this may account for the ignorance of ancient authors as to its use in cold countries in their day; because the seats of ancient learning were confined to warm climates, and geographical knowledge was then very limited. Through the indomitable courage and enterprise of modern travellers, we have been made acquainted with the customs and habits of almost all tribes and nations—civilised and



savage—so that we know of butter being used among many of the barbarous Arab and Tartar tribes, inhabiting mountainous regions; and no doubt it has been known to them for many centuries. The Tartar, carrying milk for his frugal meal, in a leathern pitcher, slung over the crupper of his saddle, would perceive, after a hard ride, that there had gathered on its surface a rich yellow substance, unknown to him before, and which could have been produced from the milk alone. The cause of its development would readily suggest itself, and its pleasant flavour would incite him to reproduce it in the same manner. This is the way butter is now churned by some of these nomadic tribes. The milk is placed in a bag made of skin, the Tartars sling it across his saddle, mounts his steed, and trots up his butter. This, we believe could not have been the way butter was first discovered by the inhabitants of western Europe, as their most ancient practice of churning consisted in agitating the milk in wooden vessels; but how, or when they discovered the art we shall never know.

In Palestine, and other warm countries, olive oil holds the same place that butter does with us. As an article of diet, we are only acquainted with the butter made from cow's milk; but butter made from the milk of the sheep, goat, buffalo, and ass, are known and used in various countries, especially in Asia. Some tribes of Arabs use the butter (called *ghee*,) of the buffalo, which they drink clarified in a liquid state. In the East Indies, there are breeds of goats which give a large quantity of milk; and among the hill tribes of the Himalaya mountains, they take the same place as the kine tribes with us. One of these goats lately brought to this country, from Calcutta, yielded on board the ship on which it came, from six to eight quarts of good milk daily. We really hope that some of our enterprising agriculturists—and we have not half enough in Canada!—who have devoted so much attention to improving live stock, will endeavour to introduce and acclimatize such a valuable breed of animals. They can be raised and fed in mountainous regions, where cows would starve. Their milk is good, their flesh excellent, and their hair makes strong and durable fabrics for cold weather. Goats milk and butter are also common in various parts of Europe.

Butter is the oil of milk, separated by the mechanical action of churning, from its other constituents—casein, sugar, and some salts. It exists ready formed in the milk, as oil does in various seeds, and it can be churned from sweet, (but not so quick) as well as from sour milk. It is called by chemists *butyrine*, and *butyric acid*. In some dairies the whole milk is churned to obtain the butter; in others, only the cream. By the former method, it has been asserted that more, but by the latter, superior butter is produced. It is our opinion that with proper care there is little difference in the results of the two systems. Grass-fed kine yields milk from which beautiful yellow butter is gathered; on the contrary, stall-fed cows give milk which yields a tallowy looking butter. This latter kind of butter, is oftentimes colored to deceive the buyer, by annatto,

the juice of carrots, and the flowers of the marigold. The color, therefore, is not always the test of grass-fed milk. Some kinds of feed impart their strong and peculiar flavor to milk. This is the case with turnips, which should never be given to milch cows, except in very limited quantities. In winter, when grass cannot be obtained, the best kind of food is a question of no small importance. Milch kine should receive at least one meal per day of steamed or boiled food. The cheapest, and best for this purpose, are, indian meal, a few pumpkins deprived of their seeds, carrots, hay, and cornstalks; potatoes are excellent, and when cheap should be given freely. Cows which receive one meal per day of boiled or steamed food, during winter, yield at least one third more milk than those which receive only dry food, the condition of the former at the same time being much superior.

Much has been said about the best methods of treating butter to preserve it sweet and from becoming rancid, under ordinary circumstances. There is no difficulty at all in the matter; and yet, the quantity of inferior (bad butter) in proportion to good butter which comes into market is immensely large. As all healthy, well-fed country kine, produce good milk, no bad butter should be found in our markets. It reflects unfavourably upon the thrift and intelligence of our farmers, that such butter is offered for sale. Cleanliness and care are two of the great secrets for making good butter. Holland butter has the highest reputation of any other; this is simply attributed to the great cleanliness of the people of that country, but there are other conditions necessary. The dishes containing the milk should be perfectly clean, and kept in a cool, dry, and well ventilated apartment, and the milk or cream which is designed to be churned, should never be suffered to become very sour—to have the least odor of putridity. It has been discovered that butter made from sour cream is very liable to become rancid, in comparison with that made from sweet milk or sweet cream. It is, perhaps, owing to want of attention on this head, during warm weather, that so much inferior butter is made. It requires longer time to churn fresh than sour cream, but the quality of the butter obtained, will pay for the use of horse-power to churn, even on a farm having no more than five cows. On my farm, I have used horse-power for churning, for over two years; of course it necessitates a little construction and contrivance to fit up the adjuncts for the work. After the butter has come, it requires very careful manipulation, or working. It makes it tough to work it over a great deal, and the use of much water for washing, takes away its fine flavor; this should be remembered. The best plan to treat butter is to submit it first to severe pressure, by placing it in a cloth, and squeezing it in a vessel containing a perforated false bottom. This can be done with a cheese press, if not, with a pounder like that employed for clothes. After all the milk is thus squeezed out, the butter should be lifted and worked over carefully, and afterwards receive one or two clean, cool waters, to wash away every trace of milk. It should

then be salted with the best salt, containing a minute quantity of white sugar mixed with it, and last of all, it should again be submitted to severe pressure. The great object in thus treating butter, is to remove all the water and milk from it, because these induce incipient decomposition and consequent rancidity. By churning the cream before it becomes too sour, and removing all the water and milk from the butter, and by careful and thorough salting and working, the very best quality will always be obtained. It requires care and a certain amount of judgment to break stones; surely, we want both in the process of butter-making. Some people never can make good butter, because they never can think sufficiently of what they are doing.

In conclusion, we would add, that when you have got good butter, never put it in such dirty looking kegs as we sometimes see at our markets; and also, never store your butter where there are vegetables, paints, and such stuffs, which give the butter, by simply being in the same room, a flavor anything but pleasant. toes, and dust with lime as before. Put in six or seven more of potatoes, and lime, and repeat the operation till all is stowed away. One bushel of lime does for forty bushels of potatoes, though more will not hurt them, the lime rather improving the flavor than otherwise.

#### CALVES IN WINTER.

Calves should have loose stables or stalls to run in during winter, with a little yard or paddock for exercise out of doors in fair weather, and plenty of fresh air always. Good soft hay, a few oats, say a pint per day for each, or an equal quantity of corn, oats, or barley-meal, and in mild weather a quart of sliced roots, is their best food. In very cold weather roots do calves more harm than good,—such is my experience. They are cold and watery, and scour them. In mild weather, roots supply the place of green food, and we consider them good for that only in our Canadian climate. If calves get lousy, rub a little soft grease, mixed with a sprinkling of Scotch snuff, on the affected parts, thoroughly to the skin, and the lice will leave at once. If you have not the snuff, grease alone will do. This is effectual, and the only remedy we have applied for years. Tobacco water we do not like, it often sickens the calves, and is not so certain a cure as the grease. Keep the calves warm, dry, and clean, and they will come out in the Spring as bright as larks. Farmers do not generally take the proper kind of care of their calves at this season. There are such things as entire neglect, and killing with kindness. Both are bad, but the former is the worst, of course.

#### WINTERING BEES.

The method of wintering bees, by Mr. Hagan, of Dupage Co., who is one of our most successful apiarians, is as follows: He builds a house of suitable size to contain his stocks, something like an ice house, of joist, clapping the outside and lining up the inside with matched sid-

ing, leaving a space of four inches all around. This he fills with chaff (speat tan bark would do as well) and ranges his hives four tiers high all around the inside. To ventilate it he constructs an air-tube from the outside underground to the center of the house where it is admitted to the house through a perforated board or metal. At the top a passage is made for the heated air to pass off; all so arranged as to exclude every particle of light. The hives are left open as though out in the summer. The heat generated by the bees is sufficient to keep the air warm enough for their safety and comfort and they are sure to come out well in the spring.

#### FEEDING HENS IN WINTER.

The following is furnished the *American Agriculturist* by a correspondent:

"I have twenty-eight chickens, large and small several of them fall chickens. I obtained but a few eggs in the fore part of the winter—not more than one or two a day. The feed was corn and oats. In January I tried the experiment of hot feed once a day, in the morning. As soon as the fire was started in the cook stove, I put a quart or so of small potatoes in an old dripping pan, and set them in the oven. After breakfast I took a quart or more of wheat and buckwheat bran, mixed, put it in the swill-pail, and mixed into thin mush with boiling water, then added about one quart of live coals from the stove, and put in the potatoes hot from the oven, adding all the egg shells on hand, and sometimes a little salt, and sometimes a little sulphur. These mashed together, are fed immediately in a trough prepared for that purpose, made about ten feet long, of two boards six inches wide, nailed together, and two short pieces nailed on the ends, with a narrow strip nailed lengthwise on the top, and two bearers under. The object of this was to keep the hens out of the trough, and leave room to eat each side of the narrow strip. At noon I fed six ears of corn cut up in pieces an inch long; and in the evening oats and wheat screenings about a quart. Now for the result. In about a week the number of eggs increased six fold, and in about two weeks, and since, they have ranged from twelve to twenty eggs per day. The coldest weather made no difference. When it was cold and stormy I kept them in the henhouse all day, and generally until ten or twelve o'clock. Such singing over the corn at noon I never heard from hens before—a concert of music that would have done any lover of eggs good to hear."

#### GREEN INK.

Take a solution of the neutral sulphate of indigo, and add to it a solution of bichromate of potash until the desired shade is obtained, then add a little mucilage. The sulphate of indigo is blue and the bichromate of potash yellow, and these two colors combined form a green. A solution of verdigris also forms a green ink; and so will a strong solution of the sulphate of copper, a decoction of fustic and a small quantity of logwood.

## ENGINEERING DEPARTMENT.

## WATER PROOF WALKS.



THESE are sometimes very serviceable in places subject to damp, and for walks on which there is much daily traffic in all weathers. The following instructions for their formation are given in the *Floral World*:—"A layer of stones, brick-bats, shells, or clinkers, six inches deep, to form a dry bottom; a layer of chalk or lime, in the proportion of one to ten of the stones, or other foundation, and well rolled and watered, to the thickness of three inches, with a rise of two inches in the centre; over this half an inch of gravel and lime, or fine chalk; water and roll well again; add one-eighth of an inch of the best colored gravel, and again roll until quite solid. Have the walk two inches wider on each side than you desire; this checks grass and weeds from encroaching, and prevents the rain-water getting to the foundation of the walk."

## NAILS, NUTS, SCREWS, AND BOLTS.

One of the component parts of a good farmer is mechanical ingenuity. Some lose half a day's valuable time for want of knowing how to repair a breakage, which an ingenious person could do in five minutes. A team and two or three men are sometimes stopped a whole day, at a critical season, for want of a little mechanical skill.

It is well for every farmer to have at hand the facilities for repairing. In addition to the more common tools, he should keep a supply of nails of different sizes, screws, bolts, and nuts. Common cut-nails are too brittle for repairing implements, or for other similar purposes. Buy only the very best and anneal them, and they will answer all the ordinary purposes of the best wrought nails. To anneal them, all that is necessary is to heat them red-hot in a common fire, and cool gradually. Let them cool, for instance, by remaining in the fire while it burns down and goes out. One such nail, well clenched, will be worth half a dozen unannealed.

Nothing is more common than for a farmer to visit the blacksmith shop to get a broken or lost bolt or rivet inserted, and often a single nut on a bolt. This must be paid for, and much time is lost. By providing a supply of bolts, nuts, and rivets, much time and trouble may be saved. They may be purchased wholesale at a low rate.

These should all be kept in shallow boxes, with compartments made for the purpose, furnished with a bow-handle, for convenience in carrying them. One box, with half a dozen divisions, may be appropriated to nails of different sizes; and another, with as many compartments, to screws, bolts, rivets, &c.

Every farmer should keep on hand a supply of copper wire, and small pieces of sheet cop-

per or copper straps. Copper wire is better than annealed iron wire; it is almost as flexible as twine, and may be bent and twisted as desired; and it will not rust. Copper straps nailed across or around a fracture or split in any wooden article, will strengthen it in a thorough manner.

## BURSON'S BINDER.

Last fall, in my notes from the Iowa State Fair, I gave the favorable testimony of farmers who had used this machine, or seen it operate, and my own favorable impressions of it, from what I was able to see of its operation.

The editor of the *Illinois Farmer* copied my article, and doubted if the binder would prove practical, because no attempt in that direction had yet proved successful! Inexorable logic! A Chicago echo pronounced the thing foolishness, and proved me a fool (mechanically) because of the cautious commendation I had given it. Other eastern wiseacres, oracles of rural wisdom, pooh-poohed at the idea of the thing.

With this condition of mind among contemporaneous writers, and the humiliating idea of myself which their infictions had given me, what was my gratification to find BURSON on the ground, with his binder attachment to a J. H. Manny machine, binding the grain as fast as it was cut, before it left the platform; and to see these same Sucker editors following it with open-mouthed wonder and a grin of gratification, garrulously asserting the triumph of the binder! as innocently, too, as if they had never given BRADON a raking down for his presumptuous opinion! But the retribution was a pleasant one no doubt. The saving the wages of four or five hands in the harvest field, and their board and the consequent labor in the household, is no trifling achievement, to say nothing of the saving of grain which results from binding it before it leaves the platform of the reaper. It requires but three men to do the work of cutting and binding the grain—the driver, the raker, and the binder. The grain is handed to the binder by the raker, who uses an ingeniously-made thumb-fork to gather and compress it. The binder shuts the arms of the machine over the bundle, compressing it tightly gives a crank two or three quick turns, the bundle is bound, tied, a jerk opens the arms, and it is kicked on the ground. All this is done in much less time than I have consumed in writing of it. It seemed to be the conviction of all who saw it operate that it was a success; and that the hand-raking machines could only compete with the self-rakers by adopting the binder. The bundles are bound with small wire, and as tightly and well as the average work of any five men that follow a machine in the field. The wire costs from 12 to 15 cents per acre. Objection was made to these wire bands, because it would require more time to cut them, and care to see that they did not go through the machine with the straw, and wind about the cylinder of the thrasher. I found that

a pocket knife would sever the wire band as quickly and easily as if it were straw; and if the wire will affect the work of the thrasher, which I doubt, a little practice will enable the band cutter to retain it with one hand and cut it with the other.

**GOOD RESULTS FROM TRIALS.**

The condition of the grass, the ripeness of the grain, the character of the fields, and their location, and the completeness of the preparations, testified to the vigilance, good judgment, and activity of President VAN EPPS, upon whom this work of preparation devolved,

I never attended a trial of this character where there was less wrangling, or fewer exhibitions of all nature on the part of both competitors and judges. The whole trial was marked by the most uniform courtesy of demeanor on the part of competitors towards each other—each apparently emulating the other in the effort to accommodate and do a good turn. All seemed to have abounding confidence in the good intentions and integrity of the Committee. That the Committee had entered upon this trial prepared to institute all the tests necessary to bring out *all* the good qualities and discover the defects of each machine, some seemed to doubt; but these doubts were not expressed clamorously.

No matter what the awards of the Committee may be, great good has resulted, and will result from this trial. The State Society has taken a long step in the right direction. It has been at no loss of money either. The whole thing has much more than paid expenses. The people are given opportunity to compare the machines and their work. Manufacturers are able to demonstrate what their machines are capable of doing, and are willing to incur the expense, if once satisfied that the tests will be thorough and impartial.

The success of future trials of this character in this State, must depend largely upon the report the Committee will make, and upon the evidence it may contain that the verdict is made after a critical analysis of the work, construction, and merits of each machine. Only one premium is to be awarded in each class, hence the prestige which the award will give the successful machine cannot be measured by the dollars offered as a premium.

The work of rendering a decision is no enviable task, where so many good machines, with their peculiar points of merit, are competitors. It is a grave responsibility, and is doubtless appreciated by the State Board.

There are many items of interest connected with this trial and growing out of it, which it would give me pleasure to notice in this connection—many personal acknowledgments and commendations I would like to make, but your space has been too largely invaded by these notes already.

**AN IMPROVED WHITEWASH.**

Much is said of the brilliant stucco white-wash on the east of the President's house at

Washington. The following is a recipe for making it, with some additional improvements learned by experiment:

Take half a bushel of nice, unslacked lime, slake it with boiling water, covering it during the process, to keep in the steam. Strain the liquor through a small sieve or strainer, and add to it a peck of clean salt, previously well dissolved in warm water; three pounds of ground rice, mixed to a thin paste, and stirred in boiling hot; half a pound of powdered Spanish whiting, and a pound of clean glue, which has been previously dissolved by first soaking it well and then hanging it over a slow fire; in a small kettle within a larger one, filled with water. Add five gallons of hot water to the whole mixture, stir it well, and let it stand a few days covered from the dirt. It should be put on quite hot; for this purpose it can be kept in a kettle on a portable furnace.

It is said that about one pint of this mixture will cover a square yard upon the outside of a house, if properly applied. Brushes, more or less fine, may be used, according to the neatness of the job required. It retains its brilliancy for many years. There is nothing of the kind that will compare with it, either for outside or inside walls. Coloring matter may be put in, and made of any shade you like. Spanish brown, stirred in, will make a red or pink, more or less deep, according to quantity. A delicate tinge of this is very pretty for inside walls. Finely pulverized common clay, well mixed with Spanish brown before it is stirred into the mixture, makes it a lilac color. Lampblack, in moderate quantities, makes a slate color, very suitable for the outside of buildings. Yellow ochre stirred in makes a yellow wash, but chrome goes further, and makes a prettier color. It would be best to experiment on a shingle and let it dry.

I am told green must not be mixed with lime; the lime destroys the color, and the color has an effect on the whitewash which makes it crack and peel. When walls have been badly smoked, and you wish to have them a clean white, it is well to squeeze indigo plentifully through a bag into the water you use before it is stirred into the whole mixture. If a larger quantity than five gallons is wanted, the same proportions should be observed.

**MOWING MACHINES.**

The *New England Farmer* says: "We have for several years known an elderly farmer, whose fields are level and well adapted to the use of the mowing-machine, but who could not surmount the idea that machinery is a plague on the farm. So at early dawn he has bent over the scythe on his broad acres, until he has acquired a bend in his back that no medicament can cure. This year the pressure was too strong for him. He heard the 'clack' of machinery all about him, and saw his neighbors clearing their fields at the rate of two acres to his one. He could stand it no longer. A Wood-machine was purchased, and proved a good one, and now he may be seen early in the morning under his beautiful trees, feeding

the poultry, or slowly following his fine cows as they nibble the sweet grass on the roadside, on their way to pasture. He is in no hurry, not he. He sits twice as long at the breakfast table as he did last year, and thinks the food tastes better than it did then. He rises early, to be sure, and his practised eye scans everything, and sees that all is right. The horses are hitched to the machine about nine, and, presto, before twelve there is as much grass down as all hands can take care of. He thinks he can earn more in the time which he has to bestow upon his stock and his care of 'little things,' than he ever did in the mowing field. Indeed it seems, he says, as if he had 'nothing to do.'

#### A NEW FLAX DRESSING MACHINE.

A machine deserving to take the same rank in respect to the manufacture of flax fibres as that which Whitney's cotton-gin holds in respect to cotton, has recently been invented by a mechanic of New York, Mr. Sandford, and can be seen at the iron works of G. R. Jackson, corner of Howard and Centre streets.

The machine is simple in construction, portable, efficient and safe in operation, cheap, and within the reach of every farmer in the country, who, with its aid, can make flax culture one of his most profitable occupations, and with an outlay no greater than the cost of an ordinary mowing machine, he can fully prepare his flax for market, in a condition better than can be attained by any of the processes now in use, with a much larger relative yield of the merchantable material, at a cost far below that of other processes now in use.

From time to time a great many experiments have been made to discover some new mode of preparing flax straw than by the old *hand* process, such as water-rotting, steeping in hot water and alkali, &c., but with the exception of dew wetting all the operations have been of no essential use.

Flax-dressing by the hand process is so tedious, and the daily yield so small, as to render it unprofitable to the farmer.

Flax-dressers state that the true mode for dressing flax is to break and free it simultaneously. This new machine carries out this idea to perfection. It preserves the fibres unbroken, and gathers all the waste in such a manner that it is more fitted for the use to which it is generally put.

The principle upon which this machine works is as follows:

The flax-straw is passed through a pair of feed rollers, one of which is elastic, at the rate of 160 feet per minute. As it passes through it comes in contact with a cylinder and belt, which are running at the rate of 800 feet per minute. The belt and cylinder being armed with teeth and scrapers, and arranged so that the straw must pass between them, the bars or scrapers and teeth taking hold of the flax straw upon both sides of the straw, the set of bar upon the belt striking the straw on one side about one eighth of an inch in advance of the bar on the cylinder, breaking the woody part of the straw very short, while the teeth on both

cylinder and belt keep the fibres perfectly straight, so that most of the woody particles drop through the bars or scrapers on the belt, the remaining shoves are scraped off and carried out of the fibre at the end of the machine, through channels which the teeth keep constantly open. The first effect of this bending motion is to relieve the fibre from the boon longitudinally; the next effect is to break it, but not until after the bars have first loosened it. This action avoids the possibility of injuring the fibre by the teeth and scrapers in removing the boon or shove.

A boy only is required to work the machine, which is certainly one of the most ingenious as well as useful inventions of the day.

#### DOMESTIC CIDER MILL.

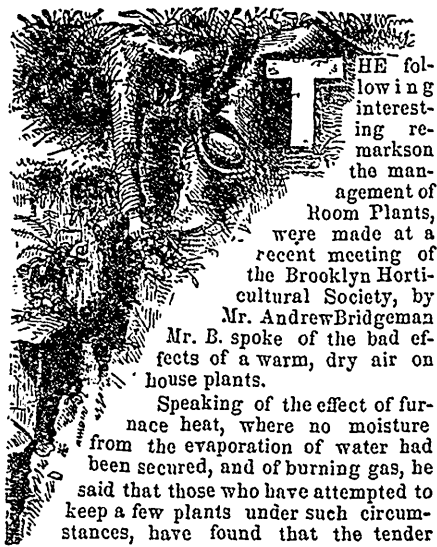
However great an improvement the portable cider-mill has proved itself, its usefulness is evidently susceptible of very great extension. Where one man possesses an orchard of the acres, there are ten who rejoice in the ownership of half a dozen trees. Most every one is fond of cider, but from the difficulty of procuring a good article of cider, almost everybody has to do without it. Now, if the portable cider-mill could be modified into a simple machine for family use, so that the cook could turn out a gallon of cider for dinner as easily as she now drees a gallon of coffee for breakfast, a great boon would be conferred on every owner of a single tree. How many thousands of such there are in our country, and how they would hasten to become the owner of a "Kitchen Cider-mill." If the sale of the present large mill has been so great, confined as it must be to those who own entire orchards, how much more extensive would be the demand for a domestic article costing not over ten dollars, adapted to the wants of a class ten times more numerous? A wide field is here open, for some ingenious man to enter and reap an abundant harvest. The suggestion is thrown out for consideration. Will some of our ingenious manufacturers of agricultural implements take the hint, and set their wits at work and produce the desired article?

In almost every hardware store in the union you may find a vast variety of simple contrivances from which snug fortunes have been made nut-crackers, apple-parers, knife-sharpener, nutmeg-graters, all subjects of productive patents. Baker's conical coffee mill has been sold by thousands. The new domestic cider-mill could be sold by hundreds, even in the cities, for here we own no apple trees, yet we can supply ourselves in market at all seasons of the year. It might also be adapted to the manufacture of all kinds of fruit wine, such as grape, currant, gooseberry, elderberries, blackberry, tomato and rhubarb.

**TRANSPLANTING CABBAGE.**—The *Gardener's Monthly* says that if the plants are put in a bucket of water, and then set out as soon as taken from the water, they will seldom wither or require any protection from the sun. We strongly recommend this practice which our experience was taught us to give, in every case a good result.

HORTICULTURAL DEPARTMENT.

CULTURE OF ROOM PLANTS.



**T**HE following interesting remarks on the management of Room Plants, were made at a recent meeting of the Brooklyn Horticultural Society, by Mr. Andrew Bridgeman.

Mr. B. spoke of the bad effects of a warm, dry air on house plants.

Speaking of the effect of furnace heat, where no moisture from the evaporation of water had been secured, and of burning gas, he said that those who have attempted to keep a few plants under such circumstances, have found that the tender shoots become shriveled, the leaves turn yellow and drop, until after a few weeks at most, they find themselves possessed of sundry sickly stocks with but few leaves attached, and when growth has occurred on any of the plants it has been weak and puny as though produced by their last expiring energies. We thus find, continued Mr. B., that a condition of atmosphere suited to wholesome respiration is also adapted to the wants of plants, and if we would make our dwellings congenial to both, we must infuse into our rooms as much of the constituents of a pure atmosphere as possible. This may be done even in the coldest weather—in part by ventilation and also in some measure by artificial means.

I am therefore persuaded to recommend to all desirous of cultivating a few plants in their dwellings, that the stand or table for their arrangement be made in size suited to their window recess in length, and narrow or wide according to the number of plants to be accommodated, the top of the stand to be bordered 1½ to 2 inches in height, and lined with zinc so as to make it perfectly water tight, the top of the table thus formed may be covered with rock moss, and leveled up with common soil or what is better, woodscarth, or tan bark, and the whole thoroughly saturated with water, and always kept so.

[Mr. B. advocated the use of double potting or in placing the pot containing the plant in a larger pot. The speaker showed to the audience (by un-potting some plants,) that the roots had forced themselves to the inner surface of the pot, and there made a net-work. The roots of plants, in this position, were likely to suffer from sudden changes of the atmosphere, &c., but when placed in double pots no such ill effect took place.]

After having thus prepared the plants, place them on the stand with a saucer under each, suited to the size of the pot so as not to give it an uncouth appearance.

My motive in recommending a saucer to each pot, is not that it should receive the drainage from excess of water, and hold it for future absorption, but to protect the roots of the plant contained in the inner pot from too much moisture, which might occur if the pot were set down and become imbedded in the wet moss and water on the stand; it would do no harm, however, if a little water did stand in each saucer, as the inner pot containing the roots would be elevated by the outer pot to beyond the reach of injury by excess of moisture, and the water in the saucer would be absorbed by the outer pot and distributed to the atmosphere.

The same principle of the double pot may be applied to the treatment of plants during the summer months, and for a similar purpose: the direct rays of the sun on the outer surface of a flower pot cause much the same injury to the roots of a plant as the dry atmosphere of a room would occasion, and the same injurious results would follow; hence it is that florists after re-potting their green-house plants in the spring, plunge the pots up to the rim in soil or coal ashes. Coal ash is preferred for this purpose, because it will not harbour worms which enter from the ordinary soil into the opening of the bottom of the pot and change the whole character of the earth.

We may safely conclude that every appliance that can be employed which will successfully infuse the atmosphere with moisture cannot do otherwise than benefit the air to the advantage of plants as well as to that of the human lungs, and this condition of air it should be our study to create in every dwelling.

Considerable discrimination should be exercised in the watering of plants; every plant should be supplied with enough water at one time to last it for a day at least. Some plants will absorb a much larger quantity of moisture than others; a quantity of water that would sustain one plant a week, may be absorbed by another plant in a single day. The amount that each will require may easily be ascertained by observation.

CONSTRUCTION OF A CHEAP GRAPERY.

BY JOSIAH SALTER, ROCHESTER.

I HEREWITH give you a rough sketch, showing how a neat, cheap, durable and effectual cold grapery may be built by any ingenious carpenter. It is a span-roofed house, 24 by 24 feet, which can, of course, be extended to any length, retaining the same width and height. A house built 66 feet wide, 48 feet long, 5 feet high at eaves, and 10 feet high at apex, makes a well proportioned and good looking cold grapery.

A A A. Perlines, which may be sunk into the rafters an inch. The sash-bars nailed on the perlines, at proper distance 7 by 9 glass—B B B

B. Rafters.—C O C. Cedar posts. D D. Ventilators.—E. Ground level. The lower part marked matched boards is 2½ feet, boarded up—that marked plank is two feet, planked up for the earth of the border to rest against. The The glass at the sides and ends may be upright sash-bars only; no thick pieces needed; the bars will be abundantly strong.

A house of these dimensions, viz, 24 by 24 feet, will take 11 red or white cedar posts, at least 8 feet long—5 on each side and 1 for the middle of the end opposite the door; 18 pieces 2 by 4 pine scantling, each 12 feet long, for water table, plate, ridge pole, &c.; 18 pieces 2 by 4 scantling, each 14 feet long, for rafters; 12 pieces 2 inch square and 12 feet long, for perkins; about 100 sash bars 1 inch thick, 1½ inch deep, with ¼ inch tongue for bedding the glass in, and each 14 feet long; a few pieces of casing and capping for the ends and ridge pole; about 150 feet match boards, and if the border is entirely outside the house, about 48 feet 2-inch plank to keep up the earth of the border. Tin gutters at \$5, cistern at \$3,

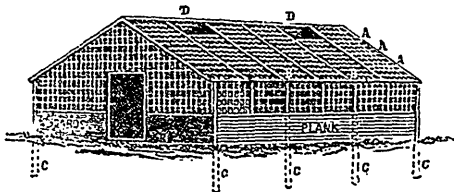
cast iron pump and watering can with rose spout; about 20 boxes of 7 by 9 Oneida extra thick glass, at probably \$2 per box, 50 feet in a box; paint, putty, &c.

I think this house could be built 'complete, not including border and wines, for \$150.

As good grapes, and of as fine quality, can be grown in this house as in the finest and most costly structure, and probably with more ease and certainty. This house will last, with a little repair, from 15 to 20 years, and produce 200 pounds of grapes yearly, worth 50 cents per pound. This is allowing a little less than 12 pounds to the rafter of 14 feet, a vine of this length will frequently give from 15 to 20, and even 25 pounds.

The half of this house, of course, would make a lean to, which should face the south; the whole a span-roof, which should run north and south, and face east and west.

You inquire, "What portions of a man's time, and for how much of the year, would be needed for its care?" The time needed for a house of this size would be merely nominal. I



Construction of a cheap Granary, by Josiah Salter. Rochester.

should say one day in two weeks, from the 15th of April to the 15th of November, would be needed if it could be all put into whole days.

A good hand would do all the work of such a viney in one hour a day, on an average, for weeks at a time; occasionally one whole day would be needed at thinning and pruning time. It is not the time taken, but the little attentions at all and at any time that may be required, and the knowing when and how and what to do, or the not knowing, which sometimes prevent or produce unfavorable results in grape-ries.

But pray let me discourage no one, for I know of no fruit so beautiful, so healthful, so luscious, and so pleasing to every one, that can be grown with so much ease and certainty, which may be cut fresh from the vine every day, in the acme of perfection, for so long a season as the grape. The grape may be had in perfection every day, from the same viney, for five months in the year. I have cut my first Dutch Sweetwater on the 18th of July, and my last Prince Albert on the 15th of November, from the same cold viney, and kept the latter variety in a dry garret until Christmas.

Even more than this can be done with some of the later ripening and long-keeping kinds, by the assistance of a gentle warmth from a hot-water pipe, to expel damp and frost during October, November, December and January.

Allow me to ask what other ripe fruit can be had in perfection for so long a season? It will take all the varieties of peach and plum, and nearly all the varieties of pears, and I was

going to say, all the varieties of apples, combined, to furnish so much ripe table fruit without intermission for so long a season.

#### SHADE TREES.

As far back as our memory runs, there has been more or less effort at improving country places by the culture of pleasant shades around dwellings and by the way-side. Many dwellings have been beautifully embowered with pleasant groves, and many graceful avenues now open their vista of trees planted by the hand of man. Tall, wide spreading, graceful old trees now the admiration and comfort of all who find a place beneath their shadow, the pride of the neighborhood they adorn, have many of these once sapling denizens of the forest now become.

Within the last half century there have been enough trees set in New-England, to have shaded every dwelling, and transformed each of our highways into a beautiful avenue. In one instance, several years since, we recollect a few individuals caused trees to be planted by the way-side, over a distance of nearly three miles. Now there is not half a dozen of these trees remaining. Most of them perished the first season, and their failure killed the ardour that set them out or their places would have been supplied. In another instance of more recent occurrence, the members of an enterprising firm bought a large tract of land, with a long line of highway through it. With a zeal worthy of the noble cause, before a year

had passed after the purchase was made, two rows of maples were planted by the way-side through their territory. Now scarcely one remains to reward them for the labor so honorably performed. Here are two instances of failure in a catalogue that might be extended almost indefinitely.

The question arises, why did not these trees live and grow? They were healthy looking trees. None but the best were taken up—straight smooth barked trees. They were set in good land. Tall grain and thick grass was growing just over the wall from their new home. The soil must surely be good. Were not the trees in fault for dying out? We have thought well on the question, and the conclusion we reach is—first, that trees are beings. They exist, grow, reach maturity—decay commences, proceeds in its work, and eventually they die. Second—they are organised beings, having not only all the organs necessary to continue life until they reach maturity, but to promote growth, protect them from disease and all the casualties to which they may be liable. They have roots to secure their position, and these roots have fibres to draw sustenance from the earth. Nature gives them in the very form and quantities they need. The top or trunk, in the forest, shoots forth in a tall mast-like form, having but few branches until it rises above the surrounding trees. Around the margin of woods, and in open lands, trees take stronger roots, and are more thickly beset with branches. These new fixtures become necessary—the roots to give a firm protection from the influence of winds—the branches to shield from storms and the burning rays of summer's sun. So nature has not only endowed them with organs of life and growth, but has given them power by which, under ordinary circumstances they can increase the number and power of some of those organs for self-preservation.

Now the conclusion of the matter touching these failures, as we understand it, lies in the fact that most, probably nearly all the trees, that have been transplanted and lost, were taken from the forest, where their organs had been adapted to forest circumstances. As they grew in the old wood lot, they grew up tall and withy.

Set out one of them as it grew, and for very limberness the wind would blow and twist the top in every direction, sometimes so far as it would almost brush the ground. This top must be cut off to prevent this sacrilege of winds, and here, instead of your tree, you take a mutilation, a mere stump, to begin with. Then, these trees have grown in the woods, well shaded from wind, storm and sunshine. Their fibre is open, they are more porous, and the bark thinner and more tender than is the case with trees which have been exposed to the changes of time and season. This change from the forest to the open field tree, all comes to them at once—only they suffer the additional disadvantages of being no longer trees but stumps, with perhaps here and there a small branch shooting from their sides.

It is very reasonable to suppose that the effect of this change of locality, from shady woodlands to a position where hot, scorching sunbeams fall upon them, has a very killing in-

fluence. The bark, open and very porous, is scorched, contracts and dies. By the drying up of the bark the wood suffers and contracts, the avenues of life which nature prepared for the tree in its first home, contracts so that the life fluid is checked in its channels, and this also tends to decay.

The roots are an important part of the tree, yet how carelessly they are handled in removal. How small a proportion of the whole is usually taken up in the removal of trees, and the very portion is left in the ground, (to wit, the fibres or feeders, always most numerous at the extreme parts of the roots,) most necessary to the prosperity of the tree; very many losses have no doubt arisen from neglect in this matter. Once, in years gone by, we stood with a friend admiring some beautiful elms, when he remarked that he sent an Irish laborer to take some trees to set in his yard, and that the laborer returned with these trees, small and miserably scrawny looking things as he ever saw. He asked him why he brought such looking things to set in his yard. Oh, said the laborer, they have good roots, and if a tree has good roots, the top will make itself. These trees then showed and now show, that with good roots, the top and trunk too will find ample provision for their success.

Another cause of failure in tree planting has probably arisen from the want of adaptation of the soil to the tree set in it. Each species and variety of the tree has its favorite soil, as every one conversant with the domains of *Sylva* must have observed. The maple has been the universal favorite; so the maple has been transplanted everywhere and under all circumstances, when in very many cases, if some other species had been introduced, success would have been more certain. The elm will succeed where the maple will fail. The sugar maple is most at home in a dry soil. The elm is more accommodating in adapting itself to other localities. It is often found on the margin of rivers and borders of swamps. The great elm of Pittsfield is in a gravelly soil.

Trees will more readily bear removing from a moist or even a wet soil to a dry one, than from a dry to a moist one.

In conclusion, in our experience in tree planting we have found that trees taken from open lands have a preference over those taken from the forest, which cannot be overrated; but as our fields have but few if any trees for transplanting, we must resort to the woodlands for a supply, where, in making a first choice, we would select them from as exposed a situation as possible. If no exposed place can be found where they can acquire hardness, our next effort would be to obtain short trees, though they might be quite young.

It must have been noticed how well a seedling tree, which has sprung up by the fence will grow. Let such a one spring up, and take a tree of ten summers' growth and set it near by. If it is taken up as trees too often are, and the top or main stalk cut off, in fifteen years the seedling will be the largest and most symmetrical tree—even if the large tree lives, which is doubtful.

Small trees are preferable for general trans-



planting for the reason that you obtain more roots in proportion to the size of the tree, and what is better, the necessity of amputating trunk and branch will not exist. We are aware that this is contrary to general practice, and therefore we run against public opinion, which when it exists against facts is of no consequence. We speak from our own experience, and for the encouragement of those who have been unsuccessful in tree planting. Wm. SACON.

#### WHITE WILLOW.

The willow family as a tree for our prairies, we believe is not fully appreciated. There are varieties of it that grow readily upon our uplands, attaining in a remarkably short space of time an altitude that gives complete protection from high winds and storms, and will when planted out thickly in the row, in a very few years make a fence that no kind of stock can penetrate.

Among these willows is the *White Willow*—(sometimes called gray)—the wood being of a most delicate white and susceptible of receiving a very high polish, and much used in some countries, especially China, for the manufacture of ornamental and useful articles. The *Huntington*, or broad leafed willow, is another. This instead of being white through has a red heart. The tree is very rapid in growth, and attains a very great height, and is often used for masts to small vessels in India, it being very tough and light. Either of these kinds grow very well on our prairies, and would furnish excellent hop poles in about three or four years time, a small plantation would furnish wood for home use.

In China, the poorer inhabitants gather from the flowers of this willow a cottony substance which they use in place of cotton. A kind of liquor is also distilled from these flowers which is very intoxicating. The Chinese use the wood for lining of wells, where it is considered the most durable of any wood; also for stable floors, for which it is considered more durable than "deal." In our country it is much visited in early spring when in flower by bees, and for that purpose alone it may be desirable to grow it.

In a recent trip in Ogle and Lee counties, we saw and heard considerable of the *White Willow*. It is known and propagated there as the *Green Holland Willow*—it having been introduced into the country by Holland emigrants. By a careful examination of the wood and leaf, we are satisfied it is the true *White Willow*, identical with that cultivated by Samuel Edwards and others that have been mentioned in the *FARMER*.

W. L. Smith, of Willow Creek, obtained some of the cuttings about nine years ago, and set out a row some forty rods long. They now make a perfectly solid fence formed by the trunks of the trees, which have grown together to a height of four or five feet, and would now furnish a cord of wood from a rod of fence. It is from this hedge that a large quantity of cuttings have been taken to plant out in the neighborhood, and on many of the farms may now be seen long reaches of it growing, from

one to three years old. The most noticeable among them is that of Edward Cady, near Lane station, on the Galena and Chicago Union Railroad. Mr. Cady has a farm of eighty acres. He settled here four years ago last November—then not a tree or shrub on the place—now he has a fence of this willow around every foot of division line, (excepting gateways,) from one to three years of age. The engraving at the head of this article represents a section of this fence, a part two and a part three years old; its size may be judged of by the figures in front. The jog in the top shows the division between the two and three year old plants. The three year old plants measured eighteen feet in height when the photograph was taken—now considerably higher.

Mr. Cady's object in thus surrounding his whole land was to secure perfect protection from severe storms and winds, and to serve as a fence. His manner of

**PREPARING GROUND.**—Is to plow up six furrows, three each side, facing each other. This he thoroughly harrows and pulverizes, thinking it of as much importance that the land should be as well prepared as for any other crop, to insure the best results. Mr. Cady believes much of the disappointments attending the culture of the Osage Orange results from want of proper preparation of ground and after care, and the danger is that the Willow will be neglected by the many. His manner of

**SETTING THE CUTTINGS.**—Is to cut the sprouts about ten inches in length and uses even the smallest tips of the limbs. Drawing a line through the centre of the prepared bed, he takes the cuttings and presses them into the soil at a slight angle six inches apart, the ends being sharp from being cut like the end of a whip graft; one man can thus set out a mile a day.

**AFTER CULTURE.**—This should be attended to as closely as that of a corn crop; all weeds kept out and the ground loose. Towards fall a good mulching of straw is found very beneficial, and in the summer, should the season be very dry. The row being kept well cleaned the first year but little difficulty is afterwards found in the cultivation—an occasional pulling out of weeds should not be neglected.

**APPEARANCE OF THE FENCE.**—Nothing can exceed the pleasant effect of a row of these trees along the highway. The regular growth gives it the appearance of having been carefully trimmed, tapering gracefully to the peaks.

The effect of these trees as a wind break was very plainly shown on Mr. Cady's farm by the condition of his crops. A large field of oats of very heavy growth, protected on three sides, the north, south and west, stood perfectly straight and in good order for the reaper, while many fields in the neighborhood were down and beaten into the ground by the storms so that they could only be gathered with the scythe, while the shocked grain in other fields was blown about in great confusion. Yet the trees here were only two years set; many of them, near the ground, have, however, attained a diameter of three inches.

Mr. C. had tried the experiment of placing manure in some of the rows before setting, the

effect of which was plainly visible in their growth—cuttings set in May were now full six feet high. Several subdivisions had been made by cross-rows of trees, one lot of which was designed for a fruit garden in which a fine lot of young and thrifty trees were growing.

The habit of the tree is such that the ground can be cultivated very near to them, and but little if any more ground is occupied than with the common worm fence.

From Mr. C.'s house can be seen a large quantity of this hedge—over five miles including his own. His trees will now furnish a large quantity of cuttings, the crop of which has been engaged by Mr. E. S. Pike, who has also engaged the crops of several others, and is now engaged in canvassing the country furnishing them to the farmers.

We would not create any undue excitement in the public mind regarding this tree, nor hold out any inducements that may not be realized, but would encourage the planting of trees on our prairies of any variety that may be useful for shelter and valuable for other purposes. We would not recommend the adoption of the willow to the exclusion of others of slower growth—such as the noble elm, silver maple, black and white walnut, etc., etc., and a good mixture of hardy fruit trees.

We do not expect all will succeed equally well with even the quick growing willow; where it is neglected the first year, and young stock are allowed to browse it, as they will do if they get a chance, a good and even growth cannot be expected. But well set out and properly cared for we believe it to be one of the best trees that can be planted on our farms.

#### THE CURRANT AND GOOSEBERRY.

THE CURRANT is an exceedingly valuable fruit, growing with little care, and preserved with ease for culinary purposes, while a really ripe and well grown currant is not to be despised for the dessert. Until the advent of the currant worm, it was subject to no enemies of consequence, and this scourge with think is destined to pass away. The absence of red and white currants, for a year or two past, has taught the people a lesson they have been very slow to learn—that the black currants are among the richest and most valuable of our fruits for cooking, jellies, wine-making, and in fact all domestic uses.

The English varieties of gooseberries do not succeed here, as a general thing, being subject to mil-dew though by close pruning and mulching the surface of the ground around the plants, some obtain a tolerable crop. The *Whitesmith* we have found to be one of the hardiest of English sorts. But, we started only to introduce the following inquiry, which we are anticipating:

EDS. RURAL NEW YORKER:—Will you, or some of your subscribers, please inform me through your paper, the best manner of culture of currants and gooseberries—when pruning is to be done, and how; and when old wood is to be cut out; and how suckers are to be treated? Also, what kinds are best to cultivate for family use?  
—JOHN G. FERROUSON, *Henri, Ill.*, 1862.

#### HOW TO RAISE ASPARAGUS.

"A Subscriber" would like to know what season of the year is best for setting out asparagus beds, and the best method of doing it.

*Remarks.*—We reply with pleasure, because we believe that not one-half of our readers enjoy the luxury of eating asparagus plentifully, and receiving its healthful influence as an article of food.

There is no mystery whatever in raising it. In order to do it thoroughly, so that it will produce fine crops for fifty years, select a piece of loamy land, such as would bring a good crop of corn. It should be drained land, or at least such as will not retain standing water either on the surface or in the subsoil. A piece thirty-five feet square will produce asparagus enough for a common sized family—say six or seven persons.

Commence on one side and throw out the earth two feet in width, and to the depth of eighteen inches—or twenty-four inches will be better—and then throw into the trench as much coarse barn manure as you can afford. Then go back on the bed and throw two feet more upon the manure deposited in the first trench; but in the meantime mingle some old manure freely with the soil as it is thrown over. In this way continue until the bed is finished. This will give a depth of two feet of pulverized soil, mingled with manure, with a bed of manure for its base; one upon which a plant of any reasonable habits ought to flourish exceedingly. Before planting, there ought to be twenty-five bushels of old, rich compost spread on the surface and raked in.

*Kind of Plants, and setting them.*—The plantation may be made in the spring as soon as the soil becomes friable and pleasant to work. Do not attempt to raise the plants from the seed. Let those do that who make it a business—the farmer cannot wait for so long a process. Do not procure plants less than two years old, and if they are three a crop will be realized so much the sooner. They should be fresh, and such as have made a good, healthy growth. Such plants may be plentifully found in the markets in the spring, at a cost of from two to four cents per root or cluster,—for the *stools* have a crown, which throws out a large number of long, slender roots.

The ground being thus prepared and laid level, strain your line along the bed six inches from the edge; then with a spade, cut out a small trench or drill close to the line, about six inches deep, making that side next the line nearly upright, and when one trench is opened, plant that before you open another, placing the plants upright, eight or ten inches distance in the row, and let every row be eighteen inches apart.

The plants must not be placed flat in the bottom of the trench, but nearly upright against the back of it, and so that the crown of the plants may also stand upright, and two or three inches below the surface of the ground, spreading their roots somewhat regularly against the back of the trench, and at the same time drawing a little earth up against them with the hand as you place them, just to

fix the plants in their due position until the row is planted; when one row is thus placed, with a rake or a hoe draw the earth into the trench over the plants, and then proceed to open another drill or trench, as before directed, and fill up and cover it in the same manner, and so on till the whole is planted; then let the surface of the beds be raked smooth and clear from stones.

Some gardeners, with a view to have extra large heads, place their plants sixteen inches apart in the rows, instead of twelve, and by planting them in the *quincunx* manner, that is by commencing the second row eight inches from the end of the first; and the fourth even with the second, the plants will form rhomboidal squares, instead of rectangular ones, and every plant will thus have room to expand its roots and leaves luxuriantly.

*Winter dressing of Asparagus Beds.*—About the beginning of November, if the stalks of the asparagus turn yellow, which is a sign of their having finished their growth for the season, cut them down close to the earth, carry them off the ground, and clear the beds from weeds.

Asparagus beds must have an annual dressing of good manure; let it be laid equally over the beds, two or three inches thick, after which dig in the dung quite down to the crown of the plants, by which means the roots will be greatly benefited; as the winter rains will wash the manure down amongst them. The beds will be greatly benefitted if covered to the depth of several inches with leaves, seaweed, or long litter from the livery stables.

The seedling asparagus should also have a slight dressing, that is, to clear the bed from weeds, and then to spread an inch or two in depth of light dung over it, to defend the crown of the plants from frost.

*Spring dressing of the Beds.*—This work should be done about the latter end of March to the middle of April, just before the buds begin to rise. After clearing away all the long litter, or whatever may incumber the ground, spread the short dung over the whole surface, and dig it in; if the alleys be dug at the same time, it will be very beneficial to the plants. Care must be taken at this season not to wound the crowns with the tines of the fork, but forking the bed should not be neglected; as the admitting of sun and rain into the ground induces the plants to throw up buds of superior size; to promote such a desirable object, the ground should be kept clear of weeds at all seasons, as these greatly impoverish, and frequently smother the plants.

Asparagus plants will not produce buds large enough to cut for general use in less than three years from the time of planting, but in the fourth year, when the shoots are three or four inches high, they will bear extensive cutting, which should however be discontinued when no large buds are thrown up. The best way of cutting is to slip the knife down perpendicularly close to each shoot, and cut it off slantingly, about three or four inches within the ground, taking care not to wound any young buds coming from the same root, for there are always several shoots advancing in different stages of growth.

The above directions are intended for family gardens.

#### CULTURE OF HYACINTHS IN GLASSES.

The Hyacinth is the bulb most usually grown in winter in the house, and when properly treated will bloom more finely, and the flowers will continue much longer, than in the open air. Culture in glasses and in pots are the most usual methods of growing this beautiful plant in the house.

In culture in glasses the largest bulbs should be selected, as it must be borne in mind that in this method of treatment, the whole substance of the leaves and flowers comes from the body of the bulb, as nothing in the way of nutriment is derived from the water. In selecting Hyacinth glasses the darkest colored should be chosen, as the roots of all plants shun the light. The water used should be rain water. Place the bulbs on the glasses and pour in water until it just touches the bottom of the bulb. Now set the glasses away in a dark, cool place, where they may remain for several weeks, or until the roots have reached half way to the bottom of the glasses. When this is the case remove them to a situation where they will receive a moderate amount of light; and as soon as the leaves show a healthy green color, they may be placed in their final situation, which should be where they can receive the greatest amount of light and plenty fresh air. The top ledge of the lower sash of a window is frequently used for this purpose, and is a good situation, for here they get the greatest quantity of light, and are kept cool by the air which will always creep in where the two sashes meet. The water will need to be changed about once in two weeks, and this should be done without removing the bulbs, as there is danger of the roots being injured in returning the bulbs to the glass after removal. It will sometimes occur that a slimy matter will collect around the roots. When this is the case the bulbs must be carefully removed, and the roots washed with gentleness and the utmost care. The glasses should be washed out before replacing the bulbs, which operation must be conducted with judgement and much caution or the roots will be broken and the plants suffer. The water used in refilling the glasses should always be of the temperature of the room. It is recommended by way of stimulant to the plants to dissolve an ounce of guano in a quart of rain water, and put one teaspoonful of this solution in each glass once a fortnight, after the flowers begin to appear.

*THE PLANTING OF SMALL FRUITS.*—The value of the small fruits begins to awaken more and more attention year by year. Around our populous cities even large farms are planted with them throughout the rural districts many private gardens abound with them.

Under this head are included Grapes, Currants, Gooseberries, Raspberries, Strawberries, Lawton Blackberries and such other fruits as occupy but a small space, and which every family may enjoy which owns a garden. When

these are properly planted and cultivated they yield a very profitable crop on a small spot. Other considerations also recommend their cultivation for every household. For Strawberries, Gooseberries, Raspberries and Blackberries come in a grateful succession, during the two months of June and July, when few or none of the larger fruits can be had. And when the other fruits are cut off by Spring frosts, these, which bloom later, generally escape and furnish us with a valuable substitute, especially as they are easily kept in sealed cans from year to year.

As a most palatable and wholesome luxury, who, that knows what good things are, will despise a dish of Delaware grapes or a dessert of Raspberries smothered in cream? Why, the wealth of Kings can purchase nothing better for their tables than these delicate and delicious viands, which the poorest man may grow in his own garden. As these delectable things can be secured only as the reward of some care and labor, I will proceed to show, in the rest of this article, how plats, strips and borders of ground may be prepared for cultivating them with the greatest success. And though my directions are intended to guide in preparing a strip to be planted with grape-vines, they will do equally well where the intention is to plant any other kind of the small fruits—the difference being only in the shape or extent of the beds, and not in the mode of preparing the soil.

For planting grape-vines in the Spring, prepare your ground, if possible, during the fall. And let it be so situated that your vines will have an open exposure to the sun. To grow grapes for the table, the vines generally trained on a trellis, and the ground for this purpose should be a strip or border from eight to twelve feet wide, and in length according to the number of vines which you wish to plant in a row at the distance of eight feet apart. Having selected and laid out your ground, begin by spading out the soil a yard wide across one end of the strip and to the depth of at least two feet, and pile it on the surface of the ground beyond the end of the strip. You have now a pit dug out a yard wide and two feet deep. Now throw in a good spread of well rotted manure and dig it into the clay at the bottom. Then spade up the rich surface soil of the next breadth a yard across the strip, and throw it forward and down upon the bottom of the pit that was first opened, and also brow upon the top of this rich soil the clay that you dig up in making the second breadth two feet deep. Proceed in this way until you have gone through to the other end of the strip. At that end you will have an open pit with no soil there to fill it. The earth that was piled up at the end where you began must now be wheeled in a barrow to fill up this pit.

The whole is now trenched and level. The manure and rich soil are at the bottom and all the poorer soil is at the top. This top soil must now be enriched by digging into it a heavy coat of well rotted manure. Now the whole is finished, and when the frost has pulverised the soil it will be in a fine condition

for planting in the spring.

The vines may be planted in a row along the center of the strip, and when they have grown two seasons, a trellis will be needed to train them on. To those who think this method involves too much expense and labor we would say, that good crops of grapes and of all the other small fruits may be raised on ground nearly so deep and rich as that of a good garden. But we wished to give directions for planting only a few vines in the best manner, in order to secure the best and most durable results.

In such a deep, wide and rich bed, the roots can range and revel in the midst of abundant nourishment, and the plants will display a wealthy luxuriance of foliage and high flavored fruit which will abundantly repay the labor.

For planting vines on a large scale, the ground is deeply trenched with the plow by running several times in the same furrow, until the debt of about two feet is attained.

### PROFITS OF FRUIT CULTURE

W. D. Gallagher has recently made a report to the Kentucky State Agricultural Society, on the commercial value of Fruit Culture, from which we extract the following:

"Of course, the first question that most men will ask, when solicited to embark in horticultural pursuits, is this: *Will they pay?* Upon which we remark as follows:

"1. Remuneration is relative. To be considered intelligently, it must be looked at with reference to the capital invested, the amount of labor employed, and the extent of the personal supervision required. Horticultural pursuits will not 'pay' as a winning game at cards pays. They will not pay as a successful speculation in breadstuffs or provisions pays. Nor will they pay as five per cent. a month on money loaned pays. Nor yet as a New York hotel or a New England manufactory pays, when those concerned in it are 'satisfied.' But that horticulture, properly pursued—not as a fancy or an amusement, but as a regular branch of agricultural labor—will pay a good interest on capital invested in it, and make a handsome remuneration for work performed, there is not the smallest room for even the smallest doubt.

"2. Examples of very great success in this business, in the United States, are by no means rare. Four or five years ago, a peach orchardist in Ohio was offered \$18,000 for the fruit on twenty acres of peach trees, while it was yet growing, and more than a month before the period at which the earliest part of it would ripen. He declined the proposition, and realized about \$20,000 from the same fruit by gathering and selling it to consumers himself. This, however, was a most extraordinary instance of a good combination of circumstances, viz.: fine fruit, a ready market, and high prices. It is one of those happy accidents which occur only once in a very long while. And, besides, four or five years of labor and care had preceded this crop, which was the first borne upon the trees.

"3. Some vineyards near Cincinnati have

in favorable seasons, produced nearly \$1,000 per acre; but a much more common yield, one year with another, is about \$250; a sum for about which good land in the Ohio Valley, easily accessible to the best markets, may be bought, trenched, planted, (the price of slips included,) staked, (with oak,) and cultivated to its fourth year. The fourth year brings a crop—though not a full one. Let the avails of this go for interest and contingencies, and the account will then stand thus:—Cost of a bearing vineyard per acre, \$250; value of crop, fifth year, \$250. Account balanced, (capital, interest, and expenditures for labor being repaid,) and closed. Within the succeeding five years, the equivalent of four crops may be counted upon. This is equal to \$1,000, which, divided by five, gives \$200 per year as the product per acre. This looks a good deal better than growing twenty bushels of wheat to the acre, or ten barrels of corn. In Washington Co., Ohio, *smug* little fortunes have been made in raising one single kind of apple, (the small

Romanite,) and shipping it southwest for the supply of New Orleans. Strawberry growers near Philadelphia have often pocketed \$500 to \$800 per acre for that delicious fruit. And a plantation of three acres of raspberries on the Hudson river, is stated to have yielded as high as \$1,500 in a single year."

#### STAMPING FRUIT.

A German journal publishes the following: "At Vienna, for some time past, fruit dealers have sold peaches, pears, apricots, &c., ornamented with armorial bearings, designs, initials and names. The impressions of these things are effected in a very simple manner: A fine fruit is selected at the moment it is beginning to ripen—that is, to take a red colour—and paper, in which the designs are neatly cut out, is affixed. After a while the envelop is removed, and the part of the fruit which has been covered, is brilliantly white. By this invention the producers of it may realize large sums."

### DOMESTIC ECONOMY.



DOMESTIC WINES.

Various inquiries are therefore made in regard to the making of wine from fruit. In compliance with a request to furnish a recipe for currant wine, we give the following, which from experience we know to be good:

**Currant Wine.**—To each gallon of clear currant juice, add two gallons of water, and to each gallon of this mixture add three and a half pounds of good brown sugar. Keep the vessels in which the liquor is put, full, and when the fermentation has subsided, close them tightly, and place them in a dark cellar, where the temperature is as uniform as possible. If a stronger wine is wanted, add, in February, one gallon of the best brandy to every thirty gallons of wine. Bottle it in May.

The following recipes for elder berry and black currant wine are from Mrs. Rundell's Domestic Cookery. The former liquor is con-

sidered an excellent remedy in influenza, sore throat, &c., and the latter is useful in summer complaints, &c.:

**Elder Wine.**—To every quart of berries put two quarts of water; *boil* half an hour, run the liquor and break the fruit through a hair sieve; then to every quart of juice put three quarters of a pound of sugar, coarse, but not the very coarsest. Boil the whole a quarter of an hour, with some Jamaica peppers, ginger, and a few cloves. Pour it into a tub, and when of a proper warmth, into a barrel, with toast and yeast to work it, which there is more difficulty to make it do than most other liquors. When it ceases to hiss, put a quart of brandy to eight gallons and stop up. Bottle in the spring or at Christmas. The liquor must be in a warm place to make it work.

**Black Currant Wine.**—To every three quarts of juice put the same quantity of water un-boiled, and to every three quarts of the liquor add three pounds of very fine moist sugar. Put it into a cask, reserving a little for filling up. Put the cask in a warm, dry room, and the liquor will ferment of itself. Skim off the refuse when the fermentation shall be over, and fill up with the reserved liquor. When it has ceased working pour in three quarts of brandy to forty quarts of wine. Bung it close for nine months; then bottle it, and drain the thick part through a jelly-bag until it is clear and bottle that. Keep it ten or twelve months.

#### HOW TO MAKE STRAWBERRY WINE.

To supply a demand for information is the ambition of all journalists. Ever since Sims startled the rural world with his assertion of the profit of the manufacture of the strawberry into wine, the demand for the *how to do it* has been constant and increasing. I have given all the positive information I could obtain, but it has not satisfied the appetite of the would-be

wine makers. I am glad to be able to give the proportions and ingredients of a strawberry wine, which I think equally as good as Mr. Sims' manufacture. It was manufactured by Mrs. REESS, of this city. The wine was pure amber color, and its flavor preferable to Mr. Sims' because it did not seem to be quite so sweet. It was certainly sweet enough. The juice is expressed as soon as possible after the fruit is gathered, and to one gallon of juice is added two gallons of water; to each gallon of this mixture is added three pounds of the best pulverized loaf sugar.

This "must" may be put into clean barrels, the barrels filled nearly full, and the fermentation regulated by the use of the siphon. Insert the long arm of a tin siphon in a bung-hole of the barrel, sealing it tight at the bung, and immersing the end of the short arm of the siphon in a vessel of water standing on the barrel. This is regarded as much the better way than the whole mode of inserting the bung loosely, or not at all, and thus regulating fermentation. By the mode described above, the carbonic acid gas escapes during the process of fermentation without admitting air.

The casks in which the juice is put, should be put in a cool cellar with a dry bottom. The cellar should be well ventilated, and kept at an equal temperature.

**HOW TO MAKE CIDER WINE.**—J. H. Keck, of Macon Co., Illinois, gives the following method in the *Country Gentleman*:—Take pure cider, made from sound, ripe apples, as it runs from the press, put sixty pounds of common brown sugar into fifteen gallons of the cider, and let it dissolve; then put the mixture into a clean barrel, fill it up within two gallons of being full, with clean cider; put the cask into a cool place, leaving the bung out for forty-eight hours; then put in the bung with a small vent, until fermentation wholly ceases, and bung up tight, and in one year it will be fit for use. This wine requires no racking; the longer it stands upon the lees the better. This wine is almost equal to grape wine, when rightly managed.

**PRESERVING—THE BEST WAY.**—Of improvements that have been made in domestic economy, within the last few years, perhaps there is none more useful as regards economy, health and convenience, than the new mode of preserving fruits and vegetables.

Formerly, it was considered necessary in order to preserve fruits, to add an equal weight of sugar, and stew it down to an almost indigestible mass.

By this new method, fruit of all kinds can be kept for an indefinite period, with the addition of but very little sugar—the natural taste of the fruit is not destroyed, and it is much cheaper as well as more conducive to health.

The whole secret consists in cooking the fruit through and *keeping the air from it*. There are many patent jars some of tin, some glass, some stone; some seal with an india rubber ring which is screwed on, others use wire and others cement—but in this as with most all other things, the simplest is the best.

Of the different kinds of jars I have used, I like best the common glass bottles, with large mouths, holding about a quart; they are cheaper and "as good as any."

Tin is cheap, but it will corrode and the condition of the fruit cannot be ascertained. Our method of preparing the fruit is to put it into the preserving kettle, and sweeten it with syrup, just sufficient for table use. The syrup is made by dissolving 2 lbs. of sugar in one quart of water. Heat the fruit till it is scalded through, and put it in hot. The bottles should be warmed by the fire or in warm water. Fill the bottles to where the bottom of the cork will come, and shake them slightly to get out the air bubbles. The cork should be forced in tightly, and under each one should be a stout piece of twine tied around the neck to prevent the cork being forced in when the fruit cools.

Then apply wax made of 1 lb. rosin to 2 oz. tallow. A good coat of this should be put on, and the bottles placed in a cool cellar and examined occasionally. The fruit should be ripe but free from decay.

By this method the fruit is ready at all times for the table, and our luxuries and comforts can be greatly increased.

**GOOSEBERRY JAM.**—Stalk and crop as many as you require of ripe, red, rough gooseberries; put them into the preserving pan, and as they warm, stir and bruise them to bring out the juice. Let them boil for ten minutes, then add sugar in the proportion of three-quarters of a pound to every pound of fruit, and place it on the fire again; let it boil slowly, and continue boiling for two hours longer, stirring it all the time to prevent its burning. When it thickens and is jelly-like on the plate when cold, it is done enough. Put it into pots, and allow it to remain a day before it is covered.

**TO PRESERVE PURPLE PLUMS.**—Make a syrup of clean brown sugar; clarify it; when perfectly clear and boiling hot, pour it over the plums, having picked out all unsound ones and stems; let them remain in the syrup two days, then drain it off, make it boiling hot, skim it, and pour it over again; let them remain another day or two, then put them in a preserving kettle over the fire, and simmer gently until the syrup is reduced, and thick or rich. One pound of sugar for each pound of plums.

**HOW TO KEEP EGGS.**—Is there any method by which eggs, can be kept until winter, and be as good as new eggs, or nearly so?

They may be easily kept if placed in a cool place on end. Some think they should be placed on the small end; we have long known this to be entirely successful. Others insist they should be placed large end down—this has also succeeded. A small cupboard, with numerous shelves, bored with holes just large enough to hold an egg each, on end, is an excellent contrivance. It should be placed in a cool cellar. Packing in salt, ashes, bran, &c., owes its efficacy to the egg being placed on end—while excluding heat by the ashes or salt is no doubt useful.

# COLONIZATION REVIEW.

JANUARY.

CONTENTS.—Government Emigration office. Circular to the farmers and landed proprietors of Canada. Information at Hoperfield, Opeongo Road, County of Renfrew.

## GOVERNMENT EMIGRATION OFFICE.

Quebec, December, 1862.

Sir,—The accompanying correspondence is submitted for your consideration, and should you take the least interest in the matter of which it treats, I beg of you to give it publicity amongst the agriculturists in your neighbourhood.

I am naturally desirous, before taking any steps to give the subject effect in the United Kingdom, to ascertain what encouragement the farmers and landed proprietors of Canada are prepared to offer in a cause of such vital importance to the country at large.

There is also another question which I should wish to bring under the notice of our farmers. Applications are being constantly made to me by young men of character and intelligence who are desirous of acquiring a practical knowledge of agriculture previous to purchasing a farm on their own account. They are in most instances willing to work for their board, or at mere nominal wages, on being received as one of the family; and some are prepared to pay for the instruction they may receive.

Farmers who are disposed to accept young men on either of these conditions are invited to transmit their proposals to this office.

I remain, Sir, your obedient servant,  
A. C. BUCHANAN,  
*Chief Agent.*

To the Farmers and Landed Proprietors of Canada.

GENTLEMEN,

Now that the organization of a scheme for a better system of colonization is engrossing the attention of our public men, and a fresh "stimulus" thereby given to the subject of Emigration, I am induced to suggest to you the importance of devising some means to make provision for Emigrant families who arrive in this country without funds; which, while tending to promote the comfort of the poor Emigrant myself, will prove advantageous to your interests, and beneficial, I hope, to the country at large.

The great drawback against which the head of a poor Emigrant family has now to contend is the want of some "Home," or shelter, where he can place his family, while he goes out to work for their support. From the general lack of such accommodation throughout the country, and the consequent difficulty of procuring it, the majority of our farmers give preference to the employment of single men, much to the detriment of a class of labourers who have within them the elements of a steadier success. To remove this objection, I venture to suggest that proprietors of 200 acre lots should set apart one cleared acre adjoining 10 uncleared acres or 'and; that they should build thereon a habitable log cabin, fit for the occupation of an Emigrant family, letting it to them for a term of years: the rent to be made payable in labor or in money, as might be ag-

reed upon; or some such arrangement as the following might be made:—That the Emigrant should rent the lot for ten years, he giving one day's labour in the week, by way of payment, with the proviso that if within five years he clears and puts under crop five acres, no further rent will be required for the rest of the term; but should he fail to do so, then the bargain would be annulled. An arrangement of this sort would have the effect, if widely adopted, of securing immediate provision for the newly-arrived Emigrant, and the Farmer affording this accommodation, would thereby acquire labour without paying money for it; at the same time improve his land, and attach, by kind treatment, to his interests, a family whose services or assistance might, in many instances, become of incalculable value to him.

In giving publicity to this letter I am influenced by a desire to attract the attention of practical men to the exigency I refer to, in the hope that the question may be fairly dealt with; and I earnestly advise all who may feel disposed to act upon my suggestions, to put themselves in communication with this Office, stating what accommodation they are prepared to offer, and such information will be brought before the Emigrant on his arrival here.

I am, Gentlemen, your obedient servant,  
A. C. BUCHANAN,

HOPERFIELD, OPEONGO ROAD, COUNTY OF RENFREW.

The following are extracts from letters, addressed to Mr. Buchanan upon this subject.

November, 21st, 1862.

After giving to your suggestions as contained in your late circular a good deal of consideration, I am so fully impressed with the benefit mutually to be derived by its adoption by the emigrant, the farmer and the Government, that I in conjunction with a few others have decided upon giving it a trial on as extended a scale as the means at our command and the field of our operations for the purpose will admit of. A few alterations have been made which it is thought will meet your approval, but in many instances could not be generally adopted, of its success for the following reasons we are so confident that we only look to Government for its co-operation by forwarding the intended settler to this place.

To this end we intend laying off six hundred acres of which we are in possession being 300 acres on either side of the main Road fronting each other and having a frontage of nearly a mile, into sixty lots of 10 acres each: each lot being well watered. On each of those we intend erecting a dwelling 20 x 24 feet and clearing around it one acre to be ready for crop on the opening of spring. The settler on his arrival can at once proceed to put in his crop and turn round and assist his old established neighbours in doing similarly; for which he will re-

ceive payment in most cases in produce that he must require delivered to him, which is better to him than cash as with the latter he would be obliged to look for what he required and lose time in doing so; and of demand for labour in this vicinity there is no laxity.

Very many settlers of old standing have seriously crippled their first footsteps by being the possessors of too much land, running over its surface carelessly and slovenly, whereas one half well attended to and receiving the same labour would have yielded a larger return. Believing in a small farm well tilled we are of opinion that for the first few years of a settler's life 10 acres will be found quite sufficient for his requirements. By our plan however he is not bound in any manner to his holding, as he can by a month's notice of his intention to remove himself to any other location, do so; and this is required so as to be able to communicate to your office any vacancies as they may occur, that they may be filled up. Our intended settlement being thus nothing more or less than a depot or school, from whence the scholars can, when opportunity offers of bettering themselves issue, and in which they will learn the various branches necessary for their future success, and of which on their advent they are of necessity ignorant, getting their maintenance during their stay, and accumulating a little store as they proceed. I may here mention that should our trial be successful, of which we have little doubt, it could be enlarged and improved by the immediate action of Government in any wished for locality and to any extent. But the great difference in our plan and your suggestions is this, that whilst by yours the Emigrant never becomes the proprietor of his holding but pays a days labour per week for the occupancy thereof, we will permit him to become a purchaser at the expiration of three years, of his holding and its improvements for the sum of fifty dollars; thus not in any way curtailing him in the amount of either labour or capital he may expend thereon. And this we consider a great boon to the settler, as in the meantime he can improve, well knowing he can become the sole possessor of those improvements at the expiration of three years on the above mentioned payment, when he can either sell or remain as suits him; and should the settlement become prosperous he can sell building lots on the front to pay for the cost of the entire and this in the case of mechanics is a decided advantage:

Four buildings have been erected already, and the necessary clearances for eleven more have been made and we only await some encouragement to proceed with the entire to completion so as to have them ready for occupants on the arrival of the spring fleet. I have written a letter to the *British Whig* which explains fully the terms of settlement, and have in course of preparation a map of the adjoining Townships and an advertisement in reference to the subject which I will forward you on their issue for distribution to your correspondents. If the encouragement is extended to us we will be prepared to receive forty families in the spring.

HENRY READ.

To A. C. BUCHANAN, Esqr.,

HOPERFIELD, OPEONGO ROAD, COUNTY OF RENTREW.

November, 17th, 1862.

Sir,

In your issue of November 11th, I find that attention has been drawn in Paisley, Scotland, to the circular which lately appeared in your paper from A. C. Buchanan, Chief Emigrant Agent at Quebec, recommending the adoption by landed proprietors and others of providing houses for emigrants on their arrival, &c.

As you take a lively interest in furthering such information, you will, perhaps, do me the favor of giving publicity to this letter, and thereby confer an obligation on the intending settler, the proprietors and myself.

Mr. Buchanan's scheme has been adopted by the residents of this place, where it is their intention to establish a village; to which end they are prepared to give the following inducements, and for which they deem the locality well chosen, viz:—Ten buildings, of 20 x 24 feet each, will be erected, (four of which are already built, to each of which is attached ten acres of good, well watered land, having one acre cleared and ready for croppage next spring on each lot, with a good frontage on the main road.

Those will be given to intended settlers on the payment only of one day's labor per week for each holding. After the expiration of three years, should the locatee be desirous of purchasing the title of his entire lot, he is to have permission to do so for the small sum of \$50, with all its improvements. By this means he is in no way restricted in making whatever improvements the means at his disposal will permit him to do; and in cases of mechanics the ten acres would be as much as they would ever require, and a sufficiency for any newly arrived emigrant for some years to come. The emigrant, let it be fully understood, is not in any way obliged to remain upon his lot for any specified term, but may leave it at pleasure whenever he makes a selection of any lands belonging to Government, either in this or any of the adjoining townships of Bradwell, Haggerty, Sherwood or Jones, paying only his day's labor per week for the time he is in actual possession of his tenement; but it is deemed requisite he should give a month's notice of his intention of removing, to enable the proprietors to communicate with the Emigration Agency at Quebec, the vacancies as they may occur. Thus securing to the intending settler a certain home, with a sufficiency of land for all his present requirements, where he can, at his leisure, look around him for more extensive possessions should he deem it necessary; and where, from the moment of his settlement, he may make whatever improvements he can, knowing that they are his own for ever on the payment of a few dollars. Should the plan succeed, the proprietors intend, the ensuing year, to add an additional fifteen or twenty to those now about being erected.

To a few married mechanics a ten acre lot will immediately be given, free of any charge



whatever, on the sole condition of erecting a dwelling at once thereon, and residing therein three consecutive years; this is open to emigrants or others. A Post Office has been established here, and labor is in much demand at remunerative rates. The place is easy of access, and in the centre of four rapidly filling townships. I have been appointed agent for the proprietors, and will feel happy in giving any further information on application, post-paid, and will carry out faithfully, and in all their entirety, the desires of the Government and the proprietors.

I am, Sir, your very obedient servant,  
HENRY Y. READ,  
Postmaster, Hopefield.

#### COUNTY OF BRUCE, C. W.

Copy of a Letter received from Mr. George Craig, of Southampton C. W.

Southampton, 18th September, 1862.

SIR,—In the "Montreal Witness," of the 15th June, I have seen a Circular referring to how Emigration of the right sort is to be promoted, which I highly approved, both as regards its theory and practice, and which should be taken into consideration by every Agriculturist, both for the benefit of himself, and also of the poor Emigrants who are daily arriving on our shores, but who do not know what course to pursue in order to procure a support for themselves until they become acquainted with the Country. And as I am a farmer in this County, and own considerable land, I would like well to get some Emigrants on part of it; and would quite agree with you in

your suggestion as to the way they should get it, viz: Suppose from 10 to 50 acres with some clearing, and a comfortable "cabane" thereon, were given to such, for a term of 2, 3 or 4 years, with the understanding that they would clear and work for you what is reasonable for it, thereby gaining for themselves a comfortable support, and also improving the land for their employers. Now I will give 10 or 12 Emigrant families such a chance myself; and can also assure you that many other parties in this place would do the same. And take it upon the whole, the County of Bruce cannot be surpassed for such persons to steer to when they land in Quebec. As it is a new County with good land, and a healthy climate, good, steady hands who have been 2 or 3 years in the Country get from \$12 to \$18 per month; and I think it right to inform you as head of the Emigrant Office to let all such know where they can find plenty of work at liberal wages. They can get here pretty easily from Quebec—by Rail to Toronto, thence to Goderich and by boat to Southampton.—Time from Quebec about 4 days, distance 697 miles.

I am, Sir, your very obedient servant,  
GEORGE CRAIG.

Extract from a letter received by the Chief Agent, from Scotland,—October, 1862.

I hope to have a large party to send out next spring; your circular is excellent, and the proposal made just meets the want that has always frightened me for my poor people. I hope your Canadian proprietors will respond to it warmly.

# COMMERCIAL REVIEW.

JANUARY.

CONTENTS.—Home and Foreign Markets.

By the news from Foreign Markets, we learn that a considerable demand for grain in England will bring advanced prices in our home markets. New arrivals from the West arriving in Montreal to be partialled stored up. The last orders for shipment to England having been discharged before the close of navigation. Prices are as follows:—

Potash, per cwt.,	\$6.70 to 6.75	Wheat, U. C. White, per 60 lbs.,	\$0.92 to 0.94
Pearlash, "	6.25 to 6.30	" U. C. Red, "	0.92 to 0.97
Flour, Fine, per 196 lbs.,	3.75 to 4.00	Peas, per 66 lbs.,	0.65 to 0.68
No. 2 Superfine,	4.30 to 4.40	Indian Corn, per 56 lbs.,	0.45 to 0.47
No. 1 "	4.55 to 4.60	Barley, per 50 lbs.,	0.95 to 1.00
Fancy "	4.70 to 4.75	Oats, per 40 lbs.,	0.41 to 0.42
Extra "	4.95 to 5.00	Butter, per lb.,	0.15 to 0.16
S. Extra Superfine	5.20 to 5.30	Cheese, per lb.,	0.07 to 0.08

The past week has been one of extreme dullness, owing chiefly to the period of the year and also to the want of snow, which has restricted our country farmers, and neighbouring small dealers from coming to market. Nor does the weather at present show any signs of change, it being bright, clear and cold, with no indication of snow. The country roads are nearly used up by the thaw in the beginning of the week and the traffic over them. The river is still quite open, although a large amount of drift ice is floating down.

The Produce market is very dull. Pork, although prices are not exactly quotable as down, still there is a depressed feeling.

Butter continues in good demand at full rates, say 13 to 16c for good to choice, inferior very difficult of sale.

In Grain nothing has been doing. Wheat dull at 92c to 94c for U. C. Spring, ex cars. In the coarser grains, the country roads being broken up, we have had very light arrivals, and prices are the same as last week. Barley 92c to \$1. Oats 41c to 42c. Peas 65c to 68c.