

## Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- |                                     |   |                                     |   |
|-------------------------------------|---|-------------------------------------|---|
| <input type="checkbox"/>            | Coloured covers /<br>Couverture de couleur  | <input type="checkbox"/>            | Coloured pages / Pages de couleur   |
| <input type="checkbox"/>            | Covers damaged /<br>Couverture endommagée   | <input type="checkbox"/>            | Pages damaged / Pages endommagées   |
| <input type="checkbox"/>            | Covers restored and/or laminated /<br>Couverture restaurée et/ou pelliculée   | <input type="checkbox"/>            | Pages restored and/or laminated /<br>Pages restaurées et/ou pelliculées   |
| <input type="checkbox"/>            | Cover title missing /<br>Le titre de couverture manque  | <input checked="" type="checkbox"/> | Pages discoloured, stained or foxed/<br>Pages décolorées, tachetées ou piquées  |
| <input type="checkbox"/>            | Coloured maps /<br>Cartes géographiques en couleur  | <input type="checkbox"/>            | Pages detached / Pages détachées  |
| <input type="checkbox"/>            | Coloured ink (i.e. other than blue or black) /<br>Encre de couleur (i.e. autre que bleue ou noire)  | <input checked="" type="checkbox"/> | Showthrough / Transparence  |
| <input type="checkbox"/>            | Coloured plates and/or illustrations /<br>Planches et/ou illustrations en couleur   | <input checked="" type="checkbox"/> | Quality of print varies /<br>Qualité inégale de l'impression  |
| <input checked="" type="checkbox"/> | Bound with other material /<br>Relié avec d'autres documents  | <input type="checkbox"/>            | Includes supplementary materials /<br>Comprend du matériel supplémentaire   |
| <input type="checkbox"/>            | Only edition available /<br>Seule édition disponible  | <input type="checkbox"/>            | Blank leaves added during restorations may<br>appear within the text. Whenever possible, these<br>have been omitted from scanning / Il se peut que<br>certaines pages blanches ajoutées lors d'une<br>restauration apparaissent dans le texte, mais,<br>lorsque cela était possible, ces pages n'ont pas<br>été numérisées. |
| <input checked="" type="checkbox"/> | Tight binding may cause shadows or distortion<br>along interior margin / La reliure serrée peut<br>causer de l'ombre ou de la distorsion le long de la<br>marge intérieure. |                                     |   |
| <input checked="" type="checkbox"/> | Additional comments /<br>Commentaires supplémentaires:  |                                     | Continuous pagination.  |

# The Farmer's Journal,

— AND —

TRANSACTIONS OF THE LOWER CANADA BOARD OF AGRICULTURE.

VOLUME V. }

Price 50 cents per annum, in advance.

{ NUMBER 9.

POSTAGE FREE.

May 1858.

PUBLISHED UNDER THE DIRECTION OF MR. J. PERRAULT,  
Secretary-Treasurer of the Lower Canada Board of Agriculture, Pupil of the Imperial College of Grignon, (France) and of the Royal College of Agriculture of Cirencester.

CORRESPONDENTS.

C. SMALLWOOD, M. D. L. L. D.

M. FÉLIX -VOGELI,

Veterinary Surgeon from France, formerly chief Veterinary Surgeon of Cavalry and Artillery and Professor of Hippiatrics, Author of different Works on the Veterinary Art and Member of several Scientific Societies in France.

TRANSLATOR, T. CHAGNON, Esq.,

Assistant-Secretary of the Board of Agriculture,

## CONTENTS

|  | PAGES. |
|--|--------|
| Care <i>versus</i> Cure.....                           | 215    |
| Agriculture a study for our Common Schools.....        | 218    |
| Mulching Potatoes.....                                 | 219    |
| Remarks on the Principles of Breeding.....             | 219    |
| Milking Cows.....                                      | 221    |
| Breeds of Domestic Cattle. II.....                     | 222    |
| The Farm Horses.....                                   | 225    |
| Laying out Gardens, &c.....                            | 226    |
| Slaking Lime for Agricultural Purposes.....            | 228    |
| Try more Parsnips.....                                 | 229    |
| Cultivation of Cabbage.....                            | 230    |
| Monthly Meteorological Report, by M. C. Smallwood..... | 231    |
| Montreal Market Prices.....                            | 231    |
| Advertisements, &c.....                                | 232    |

MONTREAL

PRINTED BY D. MONTIGNY & C<sup>o</sup> PROPRIETORS & PUBLISHERS

18 & 20, St. GABRIEL STREET.

✂ *Letters invariably refused unless prepaid.*

✂ *Advertisements, 6d per line, invariably published in the two languages. Business cards \$5 per annum, two lignes only are allowed for that price.*

✂ *Price of subscription 2s 6d payable invariably in advance, and to take date from the 1st of September.*

✂ *Those who wish to discontinue their subscription must give notice thereof one month before the expiration of the term of their subscription for the year, otherwise they shall be considered as subscribers for another year.*

✂ *Extract from Bill of Agriculture, 20 Vic. Cap. 32, Section 15, "If the said Boards or any of them shall publish a Monthly Journal, &c., it shall be the duty of all Agricultural Societies receiving any share of the Public Grant, to give notice of the time and place of holding their Exhibitions in the Journal so published or adopted by the said Boards respectively."*

# DE MONTIGNY & CO'S

## STEAM PRINTING ESTABLISHMENT,

### 18 & 20

### SAINT-GABRIEL STREET,

OPPOSITE CANADA HOTEL,

### MONTREAL.



The undersigned are now prepared to execute **JOBS** of every description both in the French and English languages, such as :—

**CIRCULARS, PLACARDS, NOTICES, NEWSPAPERS, CHECKS, FUNERAL CARDS, BUSINESS CARDS, VISITING CARDS, PAMPHLETS, CATALOGUES, BOOKS, PROMISSARY NOTES, BILLS OF EXCHANGE, LABELS, BILL HEADS, WAY BILLS, LEGAL FORMS, NOTARIAL FORMS, BAILLIF'S FORMS, &c., &c., &c.**

The beauty of the Types and the elegance of the Borders used in their establishment will insure to their work a decided superiority over all other.

As they use only Steam Presses they are enabled to supply those who may favour them with orders, at a short notice and at very moderate charges.

Merchants will find it greatly to their advantage to have their Cards and Circulars printed in the two languages and a part of their patronage is respectfully solicited.

They are also prepared to purchase the copyright of all kinds of books or to publish them for the authors.

The Secretary-Treasurers of Municipalities, the Members of the Bar and Notaries residing in the country, who will favour them with their orders by Post, can feel assured that their commands will meet with the greatest dispatch.

Montreal, September 1857.

**De Montigny & Co.**

# The Farmer's Journal.

MONTREAL, MAY 1858.

## CARE versus CURE.

“What can't be cured must be endured,” says the old proverb; a saying which is often brought forward as a sufficient reason for carelessness in cases where the convert of the apophthegm—“What can be cured needn't be endured”—would be the most appropriate of the two. This fact has often occurred to us, and not the less strongly since we have brought the want of educated veterinary skill, which exists in Ireland, prominently under the notice of our readers. It has gratified us to know that our views on this matter have been well received, and that some degree of eagerness has been evinced by the agriculturists of this country in a subject which so deeply concerns their interests. But we cannot forget that numerous cases arise requiring the services of a veterinarian, the origin of which are easily understood, and the prevention of which is, to a great extent, entirely within our power.

The artificial condition of our domestic animals seems to be a fact which is constantly forgotten by their owners; and to this much of the diseases to which they are liable can be traced. We cultivate in their case a delicacy of constitution, and, at the same time, we subject them to treatment which only those of a hardy and less artificial nature could endure with any degree of impunity. We see certain forms of disease existing, and yet we take every means to render the same hereditary and lasting. In fact, it would almost appear, on looking into the matter, as if all our energies were bent on creating work for the veterinary practitioner; and then we

find that the supply of educated men is not equal to the urgency of the demand which we have ourselves created.

Let us look a little into matters and see how far we are justified in saying that *care* might often prevent the necessity for *cure*.

When we go into any of our horse fairs, we cannot help observing the abundance of cases of unsoundness which come under our notice. Broken wind, spavins, and, in fact, every form of disease known as “unsoundness,” are to be seen on every hand. Whence, therefore, do these arise? Are they natural to the animal, such as cannot be prevented, or what share has previous treatment had in producing them? If we look at the farms of the breeders of those animals, we will probably find an answer to our inquiries. Mares which are useless for almost every other purpose, in consequence of unsoundness, are considered quite good enough to keep for breeding purposes: and with this view are sent to a sire which, it may be, is also unsound. Between the two the unsoundness is perpetuated, and the slightest exciting cause is sufficient to develop similar disease in the young animal. Besides this, it is quite common to find young horses at work, when they ought to be scampering through the fields, accumulating bone and muscle to enable them to endure the labours they are destined to undergo, instead of wasting their soft, unformed substance in the plough or cart, and bringing on premature age and disease. Many a promising young horse has been rendered permanently unsound, and his value thereby deteriorated, in consequence of his short-sighted owner putting him to work before he was able for it; and in such a case, if there exists any predisposition to disease, in consequence of descending from diseased parents, such treatment will only tend to develop the latent unsoundness all the sooner.

Now, these are no fanciful theories, they

are facts of every day experience; nay, more, we will scarcely find any one who will deny their truth; and yet, year after year; similar disease-perpetuating courses are followed. It would, we think, be better, therefore, if we were to take a little care, in the first instance, only to breed from sound animals, and next to avoid everything which might tend to induce disease, instead of doing all in our power to create and perpetuate it, and thus place ourselves under the necessity of crying out for educated men to remedy the evil.

But the horse is not the only class of our domestic animals in which *care* might be advantageously employed to prevent the necessity for *cure*.

When we look at the state of our various breeds of cattle, we find that disease is as often traceable to the effects of management as it is in the horse. It may be, perhaps, that there is apparently more obscurity in their case; but, still, there are many forms of disease to which they are subject, which, if we investigate step by step, we can have little difficulty in detecting the exciting causes. On this point, the late William Youatt is most positive, and in his descriptions of many of the diseases of cattle, that eminent authority distinctly traces them to causes entirely under the control of the owner. Take the following, amongst many others, as an example:—

**CATARRH OR HOOSE**—In a great many cases it is *the result of mismanagement*. When cattle are crowded together they are seldom without hoose. If the cow-house is suffered to be heated to a considerable number of degrees above the temperature of the external air, it is sure to be present. Many a sad cold is caught at the straw-yard, and particularly by young cattle; the food is scanty there; it is not sufficient to afford proper nourishment, or to keep

up the proper warmth; \* and the more forward drive the others about, and permit them to obtain only a small portion of their proper share of the provender; and then the depressing effects of cold and wet and hunger so debilitate these poor beasts that they are *seldom* without catarrh, *and that catarrh too frequently runs on to a more serious disease*.

“Some breeds are more subject to hoose than others. The natives of a southern district are seldom naturalized in a northern and colder clime without several times passing through the ordeal of severe catarrh; and when the system of breeding *in-and-in* has been carried to too great an extent, and been pursued in defiance of many a warning, hoose, perpetually occurring, difficult to remove, and degenerating into confirmed phthisis, will painfully, but somewhat too late, convince the farmer of his mistake.”†

This is only one instance, and we think the facts are sufficiently obvious without filling our columns with additional proofs drawn from Youatt, or any other authority, except the evidence of our daily experience.

Of late years, what we may call “the high pressure” system has been introduced into our management of cattle and sheep. A disposition to become fit for the butcher at an early age is considered as the greatest perfection in an animal; and we have therefore, introduced almost into every corner of the land that breed of cattle which possess this quality in a greater degree than any other. That the short-horn is, in many respects, the most valua-

\* This remark is applicable to the practice which exists in some parts of England, of keeping young cattle in the straw-yards during winter, on barley straw and water only.—Ed. F. G.

† Youatt on Cattle.

ble breed of cattle in existence, we believe no one will deny; but it is a breed which requires the greatest attention and care; it is—if we may use the expression—a highly cultivated breed; and, therefore, to maintain this description of cattle in a healthy state the treatment pursued must be of an equally careful nature. We cannot use it with impunity in the same manner as we might, perhaps, use some of the less artificial breeds; it must be cared for *in every way*, and if this is not done, we will, as Mr. Youatt expresses it, be convinced of our mistake, when, perhaps, it is too late.

If we take into consideration, therefore, the spread of this, comparatively speaking, delicate breed of cattle in this part of the kingdom, it may be well to inquire how far the manner in which it and its crosses are treated is conducive to the existence of disease.

We have seen how Mr. Youatt attributes the origin of catarrh, and its consequences, to exposure to cold and wet, hunger, and general mismanagement. Now, when we take into consideration that, in our grazing districts, the cattle lie out all winter, without any shelter, save that of a hedge; and, furthermore, when we remember that the cattle so treated are short-horns, or crosses of that breed, we think that the prevalence of pulmonary disease among them can be easily accounted for. This peculiar form of disease has been greatly on the increase of late years; and, be it observed, short-horns and short-horn crosses have also been rapidly spreading over the country during the same period. At first pulmonary disease was neither so severe nor so widely spread than it has been of late, and this, we think, is, in a great measure, owing to its becoming constitutional, descending from one generation to another, increasing in intensity as it descends, and ready to break out whenever external

causes are favourable to its development. For example, pulmonary disease was extremely prevalent and virulent last year; in the opinion of many, much more so than it had ever been. Is it not possible, therefore, that the cold, wet spring of 1857 was the immediately exciting cause of that disease, from which so many suffered during the succeeding summer and autumn? We must remember that it is a very insidious disease, we do not see it in its early and secret stages, and even premonitory symptoms are not unfrequently apt to be neglected or overlooked. We may be told that this disease has been fatal where the greatest possible care has been taken of the animals. Perfectly true; but it is quite possible that too much care has been taken. Mr. Youatt, it will be observed, warns us, that keeping animals in too high a temperature is as fatal as exposure to cold. There is a just medium in everything, and the adoption of this is the surest way of maintaining a healthy existence.

We do not mean to infer that short-horns are more liable to pulmonary disease than any other breed; but what we do say is, if we are to have short-horns and their crosses, let them be treated as such highly cultivated cattle ought to be treated. It is a breed which was never intended to brave all the rigours of winter without shelter, or without any food during that inclement season, save that afforded by the pastures and an occasional supply of what is but too often only very indifferent hay; and, therefore, if we are to have short-horns, and to maintain them in health, we must make up our minds to adopt another mode of management than that which exposes them to all "the depressing" and debilitating "effects of cold and wet," and, not unfrequently, hunger.

But these are not the only instances in which care might obviate the necessity for cure. The want of drainage, for example,

has in many cases been the cause of more loss among stock than would have sufficed to drain the land ten times over. Nor is pulmonary disease the only result of unnecessary exposure and semi-starvation. It is but one of many forms of disease which owe their origin to the same causes, and which are only to be extirpated by a removal of the cause. Without, however, going into detail, we have said sufficient, we think, to induce people to give greater consideration to such matters; and, assuredly if they do so they will not unfrequently find that the prevention of disease and consequent loss is quite within their own power. — *The Irish Farmers' Gazette.*

### Agriculture a study for our common schools.

That a knowledge of Agricultural Chemistry is important to the tiller of the soil, that he may prosecute his calling understandingly and with the highest success, is too plain to admit of argument, but whether it may be profitably and successfully taught in our common schools, and whether it should be a branch of study in them, is an inquiry that may startle some of the friends of these good old institutions who would look upon such a proposal as an innovation upon those time-honored studies of Reading, Spelling, Writing, Arithmetic, Grammar and Geography. As a general rule, we do not approve of the introduction of the higher branches into our district schools, believing that it would have a tendency to divert attention from those primary studies which appropriately belong to them. But when we consider that so large a population gain all their education in these schools, and that so many of the pupils become tillers of the soil, shall not a brief space be allotted for their instruction

in the principles of their future calling? The disinclination which is felt among the farmers to reading articles in our journals which relate to agricultural chemistry arises from their ignorance of its first principles. If they do not understand the terms and laws of the science, reasoning founded upon them will always appear loose and confused, and it is only by implanting them early in the mind with the other rudiments of knowledge, that they may become familiar as the alphabet, and may be ready for use when needed.

It is true that our teachers as a class are now preparing to instruct in this department, and unacquainted as they are with it they cannot bring forward those ready and common illustrations which not only assist the pupil, but secure his attention, and interest him in the study. Though teachers may not be required to pass an examination in this branch, yet let it be known that in winter schools, in our rural districts at least, it may be desired as a branch of study, and the supply will answer to the demand; teachers well qualified in other respects, will not hesitate to devote sufficient time to acquire a knowledge of this duty. The greater care of managing a school kept busy by some interesting study will fully compensate for all the extra trouble.

Happily we have not to wait for the preparation of a book adapted to the capacity of this class of scholars, and at the same time strictly correct and complete in its scientific detail. The "*Catechism of Agricultural Chemistry and Geology*," by the late Prof. Johnston, of Edinburgh, was dedicated to "the school-masters and teachers of Great Britain and Ireland," and has been extensively introduced into the schools of the United Kingdom. To the late Prof. Norton, of Yale College, we are indebted for an American edition, with an introduction prepared by him. The Super-

rintendant of common school in the State of New-York recommends it highly for the use in all their schools. From long acquaintance with the work and from the interest we know is excited by its study, we most cordially advise all to form classes in it and give it a trial, being well assured of the result. As it is a small book, the cost is trifling, and the time required of little moment, but as the author here exhibits the happy faculty both of condensing and simplifying without weakening or detracting from the subject, the treatise is very complete. The first three questions and answers will give you an idea of the whole.

*Q.—What is Agriculture?*

*A.—Agriculture is the art of cultivating the soil.*

*Q.—What is the object of the farmer in cultivating the soil?*

*A.—The object of the farmer in cultivating the soil, is to raise the largest crops, at the smallest cost, and with the least injury to the land.*

*Q.—What ought the farmer especially to know, in order that he may attain this object?*

*A.—The farmer ought especially to know the nature of the crops he raises, of the land on which they grow, and of the manures which he applies to the land.*

Crops, soils, manures, the rearing and feeding of animals, and the management of the dairy, make up the volume. Teachers who would prepare themselves for instruction in it, would find the more extended treatises by the same author, viz, "Johnston Elements" and "Johnston Lectures," most valuable aids, as also "Norton's Elements of Scientific Agriculture," a prize essay of the New-York State Agricultural Society.—*Homestead.*

## Mulching Potatoes.

MR. EDITOR. The potato being one of our most important crops, I think it would be well to try and see if we cannot raise it sooner, and at a saving of labor and means. You have read of the experiments tried on a small scale of raising potatoes, by merely placing them on the sod, and covering them with eight inches of straw, being careful to wet the straw.

I am going to try it on a quarter of an acre, and in the fall will let you know the result of my experiment I hope some of your numerous subscribers will also give it a fair trial and report the result. This is a cheap way of raising them, as in the fall you have only to rake off the straw and pick up your potatoes.

N.

---

## Remarks on the Principles of Breeding.

Breeding, with a view to improvement, may be said to be founded on Nature's established law, that "like begets like." This, however, is only true in part, for there is a constant tendency to change, arising from a variety of causes; such as domestication, living in a different climate, or on a different kind of food. The management to which animals are subject has also, its influence. While these may be looked upon as the chief causes in operation, that produce this constant change, they are the means, at the same time, in connection with other causes, which are used to effect an improvement.

In order to improve the breed, there are two modes advocated by practical breeders. One is commonly called the "in-and-in system," and the other that of "crossing." The former was practised many years ago, by Mr. Bakewell, of England, which, at

least, had the effect of destroying the prejudice that had previously existed against breeding from animals of the same race, or blood. But the system of breeding in-and-in, it has since been ascertained, has a tendency, after a time, to deteriorate the breed; in fact, it is limited, so far as its benefits are concerned, unless the utmost care is observed in the selection and management of the stock, avoiding every thing that can possibly tend to hereditary disease. To accomplish this, the breeder must select only those animals as his judgment and experience will convince him will be likely to unite in their offspring the qualities sought. From their progeny, again must be selected only those animals which more completely exhibit the requisite qualities, and so on, from generation to generation, until the character desired is fully developed. The importance of continuing this process for a number of successive generations is obvious, from the fact, that peculiar traits of character, often disappear in the first, and reappear again in the second or third generation. A desired character may be found in the parent, and inherited by only a part of the offspring, and the requisite point can only be uniformly developed by a careful selection through several consecutive generations. By this process, it is apparent that this system must be adopted; yet, at the same time, it is desirable to avoid too close alliances. Hence, it is considered better to breed more distant members of the same family together than those that are more nearly related.

In improving the breeds of animals, the chief points to be arrived at, consist in reducing the parts of the least value to the least possible dimensions, which may be regarded as offal, as the head, neck, legs, &c., while the large quarter or ham and deep chest, for fattening, and square, well-set udder, large milk veins, mellow skin,

and kind temper for milking qualities, should all be developed to the greatest possible extent. In order to produce these, a strict regard should be paid to pairing with the view of correcting an imperfection in one animal by a corresponding excellence in another. For, the character of the parent is more fully impressed upon the offspring when the former is in the most vigorous period of life. Consequently neither very young nor very old animals should be selected for the purpose of breeding. All the conditions of soil, situation, climate, treatment, and food should be favorable to the object sought, and particular care should be taken to bring the male to the mind and taste of the female, and for the first year, at least, that the young are well supplied with an abundance of nutritious food, and with comfortable shelter and shade. Furthermore, every female, while pregnant, should not only be well fed, but care should be observed that the food be of a proper kind. Let it be remembered, also, that the growing fetus has blood, flesh, and bones to form, as well as its mother; and therefore a greater proportion than usual of the constituents which go to make these, must be supplied by the food of the dam; otherwise, the fetus will suffer, as well as its parent. Again, it should be borne in mind, that, no breeding animal, either male or female, should be made too fat; for the former would often become too heavy and unwieldy by their joints and sinews being, as it were, possessed with little action, or effect, by a load of useless and injurious fat; neither would a female, in a state of pregnancy, be in a natural and safe condition, either as regards herself or her young, when thus unnaturally encumbered. To illustrate more clearly my meaning, let us take, for instance, a breeding sow, which has been too highly fed, and it will be obvious that she will be incommoded with an unnecessary

ry and cumbrous weight during the latter stages of pregnancy; and besides, her offspring, would become contaminated with sickness and disease, which, sooner or later would be communicated to their progeny.

The system of "crossing" is founded on a principle just as secure, as regards care in selection, as that adopted by Bakewell in breeding in-and-in. For, it is well known that certain diseases are hereditary, and so is color, none of which can be changed nor got rid of except by crossing. This tendency of "like begetting like," is forcibly illustrated in the results of crossing various breeds of cattle, such as Devons with Herefords, both the color and form of the parent animals being thereby modified or changed.

As a general rule, animals produced by crossing are the most profitable either for meat or milk. Most of our good breeds have been perfected by this system, and selection has long maintained them. A cross is comparatively the operation of a moment; and its end once attained, the breeder's object is *not to repeat*, but to *maintain* it.

B.

---

### Milking Cows.

This is a subject of too much importance to be passed over; and I fear that I must add that it is a subject far too much neglected. The milking of cows resolves itself naturally into two heads, viz., how to milk, and when to milk.

*How to Milk.*—It is astonishing what difference there is in good and bad milking. 1. If every drop of milk in the cow's udder be not carefully removed at each milking, the secretion will gradually diminish in proportion to the quantity each day left behind. This fact is well established, and is to be well accounted for on philosophic

principles, as well as borne out in practice. Nature creates nothing in vain, and the secretion of milk in the cow only suffices to supply that daily loss—the milk left behind in the udder is re-absorbed into the system, and consequently the next milking will be so much the less in quantity. But another reason why every drop of milk should be taken away, is to be found in the well-known fact that the last milk is doubly as good as the first milk, hence, if not removed, there is not merely equal, but double loss. 2. Milking should be conducted with skill and tenderness—all chucking or plucking at the teats should be avoided. A gentle and expert milker will not only clear the udder with greater ease than a rough and inexperienced person but will do so with far more comfort to the cow, which will stand pleased and quiet, placidly chewing the cud, and testifying by her manner and attitude that she experiences pleasure rather than annoyance from the operation. Cows will not yield their milk to a person they dislike or dread. I have taken some trouble to acquire the art of milking, in order that I might be able to describe it. You take the teat in your palm, enclosing it gradually in your fingers, tighter below than above; but not absolutely tight anywhere—a portion of the upper part of the hand—the thumb is uppermost—embraces a portion of the udder, and the whole hand is drawn gently downwards, towards the extremity of the teat, between the thumb and the forefinger; very little practice enables the milker to do this with ease, rapidity, and tenderness. I need not say let the hands be carefully washed before each milking; but I dare say it is seldom thought necessary to wash the cow's teats. This, nevertheless, should be done, and it will then be found that the milk will flow more freely with any teats than if you wet them with the milk; at least, I find it so, and think myself an expert milker.

We now require to consider when *the cows are to be milked* - a question again resolving itself into two minor ones, viz., at what hours, and how often? The ordinary practice is, to milk cows twice daily—at about 5 o'clock in the morning, or, in winter, as soon after day light as possible, and again at the same hour in the afternoon, thus leaving 12 hours' interval between each milking. Some recommend milking three times daily during the summer months, stating as their reason that cows are then after calving, and flush of milk, and that the three milkings are calculated to increase the quantity of the secretion. Some even recommend four milkings during that season. There can be no question but that, when fed in proportion, such a constant demand would necessarily increase the quantity of milk secreted; but then it is likely that the same causes might produce such a depression in the secretory system — naturally consequent upon unusual excitement — as would cause a decrease of milk in autumn and winter, in about equal ratio. — *Ayr Agriculturist*.

of his race, to his own prosperity, begotten on females of the same family with himself. How far he will transmit those characteristic qualities to offspring begotten on females of another distinct family or variety, is a widely different question; and, in fact, nothing can be predicated on this point, except as the direct result of particular experiment.

For the understanding of this interesting subject it will be necessary, first, to examine the principal British families, since from Great Britain mainly we have derived nearly all, and quite all our best, American families. It is true, that there must have been in different States of the Union different crosses of foreign, continental blood, which still bears a share in a large proportion of our native cattle. New-York, founded and colonized by Hollanders, doubtless had its original stock of cattle from the rich and watery meadows of the Low Countries; and bulls and heifers, such as Paul Potter loved to paint, among Holland willowbushes, blue canals, and interminable green levels, fed and chewed the cud in the pastures of the New Netherlands. It cannot be doubted that Swedish and probably Danish and Holstein cattle, were imported into New-Jersey; Swabian, Bavarian and Prussian cattle into Pennsylvania; Andalusian and Murcian stock into Florida and Louisiana; and Norman cattle into the Canadas and the Lake States, at an early period of our history.

Still, as our language so our agriculture has been in all respects, and most of all, in regard to cattle and horse raising, purely English. All our most intelligent and best-considered efforts for improving our breeds of cattle have been carried on upon the English principle, and have been realized by the importation of choice British breeds; the raising on that principle pure and thorough stock from those British breeds as perfectly authentic and unmixed

## Breeds of Domestic Cattle...II.

In a late paper we pointed out that, in speaking of neat cattle, where the word thoroughbred is made use of, no claim is put forth in behalf of any one family or variety, of possessing an absolute, original blood, like that of the thoroughbred horse of Oriental blood, in which are included Arab, Barb, Turk, Syrian and Persian blood, which is superior to any other blood, and entails superior characteristics and qualities on its possessors, but that it is only intended to assert that the individual beast is a pure specimen of the race or variety to which he belongs, and is capable of transmitting his qualities, which are those

as any in the island itself, and lastly, the engrafting the qualities and a proportion of the forms of some of these varieties on what, though it can be considered itself only as a fortuitous result of a combination of many families, we are in the habit of calling our native stock. In fact, the English hand-book is as necessary to the practical and intelligent cattle-breeder of America as is the Turf Register to the patron of the turf and the lover of that noblest of animals, the thoroughbred horse. The study of the English breeds of cattle is, therefore, worthy of all care to the American farmer, as it cannot be doubted that they have carried the cultivation and improvement of the ox family to the highest point in England, as regards all the various ends of utility to be found in that excellent, patient, uncomplaining and philosophical partner in our agricultural labors, the husbandman's best friend, the ox; whether he be required as an article of food directly, by his flesh, or less directly, by the butter and cheese produced by human intelligence out of the teeming udders of the milky mothers.

The families of British cattle, nearly all of which—all, in fact, of which having any claims on the public favor—are as well known here as at Leicester, Durham, or on the shores of Devonshire, are many in numbers, every county, and almost every considerable parish having, more or less, its own distinctive sub-family. All are, however, referable to one of four great divisions, in regard to which there has been much controversy as to their characteristics. These are the middle-horns, the long-horns, the polled cattle, and the short horns; and to these belong, more or less exactly, all the breeds of cattle which have gained a world-wide renown, and which, each in its own degree, possess some high and invaluable characteristics, whether for the dairy, the shambles or the field. There

has been some controversy as to which of these four grand divisions is to be regarded as the true British breed; but it is, we believe, now generally conceded that the oldest and nearest original of the four divisions is the middle-horns, of which the Scottish kyloes are the most unmixed, and, as in general believed, the oldest class of families, while the polled or hornless cattle, humbled, as they are styled in the northern provinces, are the consequence of an accident, which has by artificial means been rendered permanent, the casualty being converted, by a long course of inbreeding, into a family characteristic.

The original varieties, from which each of these four grand divisions sprang, which have again, more or less, branched out, each, into many subfamilies, appear to have from a very early period, almost so long ago as that the memory of man goes not to the contrary, been indigenous to certain localities, now brought to them, it is impossible now to ascertain and useless to inquire.

The reason, however, for ascribing to the middle-horns, as they are called, the antiquity, is this, that they are found to exist in those places, and in those places only, to which the ancient inhabitants of Britain successively retreated, and in which they longest maintained themselves; as the remote regions of Devonshire and Cornwall, in the West; the mountainous regions of Wales; the wealds as they are called, or high country of East Sussex, and the Highlands of Scotland; in all of which localities, it may be observed, are found the skulls of the fossil ox, described in our last paper, *bos longifrons*, which possesses so many of the characteristic points of the modern middle-horns that it is conceived by many competent judges to be their type in the times of Casvelen and Carodawy, the Cassivelauros and Caractacus of the Italian invaders. In all these regions, the

general aspect and characteristics of the stock of neat cattle show them to be of one origin and nearly connected, although the difference of climate, soil and food have modified the sub-families, and greatly affected their size and weight. Thus, in Sussex, where the pasture is as luxuriant as it is abundant, the middle-horns have attained their greatest bulk, and have at the same time become coarser, and lost beauty. In Devonshire, where the pasture is still liberal, although less luxuriant and succulent, the ox is a lighter, finer, more active and more delicate animal, and may be considered the most perfect type of the middle-horns. In Wales, among the bleak and barren mountains of that wild principality, the middle-horns have degenerated in size, acquired thicker hides, and a closer and more shaggy pelt than is worn by their brethren of milder climates. The same is the case with the little Scottish kyloes of the Highlands, which exist among the unchanged Celtic inhabitants of those grand blue mountains, probably themselves nearly unmixed, also, since the days when they were driven northward before the successive invasions of Roman, Saxon, Dane and Norman. The uniformity of color observable among all these cattle, which are generally self-colored, as it is termed, or free from spots or markings, being pure reds, blacks, browns, or duns, without white, is a strong argument in favor of their unmixed descent and nearly normal condition; for it is notorious that there is no surer test of long domestication of colors than the multiplication of colors and the spotting, speckling, or pyeing of the hides of animals. The long-horns first became generally known to breeders, as natives of Lancashire and of the small fertile district of Craven, in the West Riding of Yorkshire, adjoining Lancashire and the southeastern corner of Westmoreland, in which the same family was found. Long-horned cat-

tle also exist in Ireland, and that island has been, by some, claimed as their original birthplace; but it is argued, on the other hand, more plausibly, as the long-horns are found in Ireland, exclusively in the low and level districts which would be the first to be subjected to invaders, while the middle-horns are found, as in the adjacent island, principally, if not entirely, in the mountain fastnesses, which would afford the last refuge to the reluctantly conquered natives, that, that the long-horns were introduced by the Norman conquerors, who, it is well known, crossed the channel from Lancashire and Cheshire. However this may be, the long-horns were first improved in Leicestershire, and have, to a certain degree, spread and maintained themselves in the midland counties, though they are no longer the favorites which they were after their early improvement by Mr. Bakewell, but are in process of being supplanted by the short-horns, which are constantly growing in public esteem. The polled cattle, originally developed in Galloway, on the south-western sea-coast of Scotland, have been introduced into Norfolk, Suffolk, and the south-eastern counties of England, where the native Galwegians are still annually bought, on their way southward, and fatted for the London market. Of the short-horns, Holderness, and the Teeswater district of the County of Durham, have for many centuries been the home, and there they are still found in perfection.

In Northumberland, Durham and Yorkshire, they existed from a very early period, and have always predominated. Their great antiquity is shown by the fact that there is in the ancient cathedral of Durham the sculptured effigy of a cow, "which presents in every respect a perfect type of the true Durham short-horn." When it is remembered that these three counties were remotely subjugated and long occupied by the Danes, who were only

finally reduced in the reign of William the Conqueror; and when it is known that a closely analogous breed of cattle has from remote antiquity prevailed from Jutland and Holstein, in Denmark—which appears to be their native spot—westward, through Germany and the Netherlands, to the confines of France, while the short-horns are analogous to no other British breed, there is much reason to believe that the origin of this family was brought to England by the Danish-sea-kings. In another paper we shall discuss the various families of these divisions.

## THE FARM HORSES.

BY A PRACTICAL FARMER

In order to include the fullest and most comprehensive view of this subject, I shall first consider the extent of the arable portion of the farm best adapted for economising the labour of the farm horses; as, however desirable and beneficial it is to combine grass and arable lands together in laying-out a farm, yet, so far as the farm horses are concerned, it is only with the arable portion thereof we have now chiefly to do.

The results of great practical experience in most parts of the kingdom have demonstrated, that the efficient culture of about forty acres of loam, loamy clay, or clay soils, will require the power of two good horses, such lands being kept under cultivation, and not subjected to the prescribed courses of husbandry usually adopted on light soils. On these soils, where the four course or other shift is adopted, the same experience has demonstrated that a pair of active horses will suffice for the efficient working of at least sixty acres, because, as one-fourth, or more, is under a seed crop, there remain but forty-five acres, or thereabouts, for the pair to cultivate; and the

land being lighter in quality, is worked with less labour proportionately, and will allow a sufficient margin for a little extra cartage of clover, hay, &c., from the seeded portion of the farm. It will also be found, from the results of the same practical experience, that the various kinds of farm work, such as cartage in harvest-work or in manuring land, requiring a continuous succession of loads, or in any work requiring a relay of horses; or in seed-time, so that the harrowing and drilling go on simultaneously; or in turnip sowing, so that the manure is deposited and ploughed-in immediately

I repeat, it will be found that not a less number than six horses can, on by far the great majority of farms, keep up this continuous succession of general labour so as not to impede the regular farm-work; but with this number of horses, and the free use of one horse carts, the various kinds of cartage may be economically performed: and, with good management, also all the other various kinds of farm-work may be carried on without let or hindrance. I hold it to be of great importance that this should be the case. The ploughman must not wait for the dung-cart, nor the staker for the harvest-cart; but all must proceed regularly and in order together.

In accordance with this statement, it will therefore be seen that the farm should not contain a less quantity of arable land, of a strong texture or character, than 120 acres, or of light land not less than 180 acres, respectively; but the larger in moderation, the more economically can it be managed.

To conduct the farm, then, most profitably, because most economically, we require it to be of the extent, at least, named above; and to work it properly, we require six useful farm-horses. What kind shall we select? How shall we procure them? What course shall we pursue to keep up

the number? It will be foreign to our purpose at this time to enter upon the distinctions and qualifications of the various breeds of farm-horses; I shall merely take this general rule — to select powerful draught horses for the heavy land farm, and light draught horses for the light-land farm; i. e., the large Lincolnshire, Cleveland, or Clodesdale horses for the heavy land; the Suffolk Punch, the Norfolk, and other lighter breeds of cart-horses, for the light land: these will amply suffice. The usual course to be pursued, in making this selection, and procuring them, is to attend the most popular horse-fairs in their respective districts, and to pick up individual specimens as required. Another mode is, to attend the various farm sales within any reasonable distance, and purchase such as are suitable. In the latter case, many admirable animals may be found; indeed, it is the only way to obtain first-class mares for breeding purposes, as few farmers will sell their best brood mares at any price.

To keep up our stock of farm horses it will be right to include both horses and mares our in selection, and the proportion, should be four horses to two mares; the latter to be chosen with a view to breeding. If more mares are taken on to the farm, it may occasionally put the occupier to inconvenience, as in the event of all of them producing foals in one season, the necessary rest they would require of course impeding the farm work; hence two would be found to breed a sufficient number of young horses to keep up the farm stock or supply, and for the occasional sale of a cart-colt—generally a valuable animal, and ever in demand. I name this as a general rule: but as we cannot expect to obtain just the farm we want, either in extent or proportions of arable or pasture lands, the number of horses required will vary accordingly; and the extra number should, I think, consist of a larger

proportion of mares than horses, because if the mares are not at all times required in farm work, they may be profitably employed in breeding, and there are certain seasons when they may be much better engaged suckling their foals than in the work of the farm; moreover, in busy seasons, and when the farmer is hard pushed for help, a little light work in cartage or the like, as not to over-work or over-heat them, will do them or their foals very little harm, but foals should not partake of feverish milk.

Another very important part of this subject is the age of the horses we would select. I think they should invariably be young, or from two or six years old, and care should be taken to ascertain that they are sound, and good workers. Occasionally older horses may be purchased; indeed as respects "brood-mares" it will be found desirable; and as I have before said, they are generally best obtained at farm sales; and in such cases a good mare must not be missed because she is a year or two beyond our prescribed limit as to age. It is but seldom that really good and valuable cart-mares for breeding purposes are exposed for sale in the open market or fair. Every farmer has his pet mare. I would on this point also suggest that it is always desirable to have at least one horse on the farm qualified for riding or driving, or as an occasional plough-horse: this might constitute an extra horse for any emergency.

---

### Laying out Gardens, etc.

Many gardens are wholly deficient in any distinctive character, from the fact of their having been designed, or more properly jumbled together piecemeal, without any design whatever. It cannot be denied that such gardens often possess many pleasing features; but, from the incongruity inseparable from such an arrangement,

their beauty is, for the most part, neutralized or entirely lost. It is hardly too much to say that nothing truly beautiful, as a whole, ever resulted from chance, and a garden certainly does not form an exception to the rule. Of course, it is not insisted that a design having been once determined on should be adhered to at all hazards; that would be little short of insanity, because many circumstances will often present themselves for consideration in the working of it out which will allow of a modification in the detail with great advantage; but with the principal features there should be no change. Presuming that these will be the result of careful consideration, and be thoroughly adapted to the exigencies of the case, no particular change could possibly be made without destroying the effect of the whole, reducing what would be beauty, order, congruity, to a mere chaos of discordant parts. The beauty of a design arises in a great measure from the harmony of its several parts to the whole.

Yet the great source of pleasure to be derived from a garden must undoubtedly consist in the variety of its subordinate features, and in the various objects of which they are composed; but there must be design in their arrangement and formation if they are to produce all the pleasure of which they are capable. Variety and intricacy, when subject to order and design are among the most powerful sources of pleasure to the senses and the mind, "Nothing" says Allison, in his *Essay on Taste*, "is more delightful than in any subject where we at first perceived only confusion to find regularity gradually emerging, and to discover amid the apparent chaos some uniform principle which reconciles the whole. To reduce a number of apparent dissimilar particulars under our general law of resemblance, as it is one of the strongest emotions of beauty which design can excite," It is not, of course, to be under-

stood that a garden is any time to appear chaotic or confused, which is the result of chance; but it certainly should have sufficient intricacy to stimulate curiosity, and variety enough to satisfy that curiosity when excited.

The recognition of one principal feature in the scenery of a garden must not be allowed to produce monotony in the subordinate ones, or to influence their number. Nor indeed need it do so. There is generally some one point, either from the windows of the principal rooms or from situations near the house, where the garden as a whole should form a pleasing view, and it is to this that especial attention should be given. Supposing the point of view to be elevated, as it should be, above the surface of the garden, as from a terrace, the various parts of which the garden is composed — lawns, shrubberies, single specimens and groups of shrubs or trees, flowers, and garden ornaments — should so combine as to form one pleasing and symmetrical whole. The symmetry need not necessarily be formality or mere uniformity, although it is more than probable that the immediate foreground will be made up of both; but the several parts should so balance each other as to present to the eye a symmetrical and pleasing combination. Every scene or object to be embraced by the eye at one view should possess symmetry, and to be truly beautiful it must be so. Nature is ever teaching us the importance and beauty of symmetry, and the eye, constituted to find pleasure in that quality, in spite of all abominations in form with which false or perverted tastes have from time to time sought to allure it from its allegiance, remains and ever must remain, faithful to itself. It may, and often does put on the spectacles of fashion, and, for a time, professes to be charmed with the abortions revealed to it; but of these it discards tomorrow what it professes to admire to-day.

and true and faithful to its earliest love, ever returns to it with renewed affection.

Symmetry is not necessarily formality both are beautiful in themselves, but they have each their special province, and must not be confounded together.

### Slaking Lime for Agricultural Purposes.

Lime, obtained from marble, or limestone, from marine or fresh-water shells, by depriving it of its carbonic acid by burning is known by the several names of *burned lime*, *quicklime*, *caustic lime*, and *lime shells*. As a general rule, a ton of good limestone will yield half a ton of lime shells; but the weight of the latter, per bushel, varies with the kind of limestone used, and with the manner in which it is burned. In some cases, a bushel does not weigh more than 74 lbs., while in others, it will exceed 100 lbs., which shows how uncertain the quantity applied to land may be when it is estimated by the measure. Hence lime should be bought and applied to the land by weight.

In slaking, burned lime has a strong tendency to "drink in" and combine with water. Thus, when taken from the kiln and exposed to the air, it absorbs moisture and carbonic acid from the atmosphere, increases in weight, swells out, and gradually falls to powder. Or, if water be thrown upon the burnt stone, or shells, it "drinks it in," becomes hot, swells very much, and falls down in a short time to a bulky, more or less white, and almost impalpable powder. When the "thirsty lime" has thus fallen, it is said to be "slaked" or quenched, and is known under the name of "hydrate of lime." If more water be added, it is not "drunk in," but forms with the lime a mortar, or paste.

When burnt limestone, or shells, is laid

up in heaps in the air and is allowed to draw moisture and carbonic acid from the atmosphere, it falls to a powder of itself, and is said to be "slacked," or "air-slaked." In both of the states described above, the lime is hot, or caustic, and may be properly spoken of as *caustic lime*. If spontaneously slaked, that is, if it be in a state in which one half of the lime is combined with water, and the other half with carbonic acid, it may be said to be only *half caustic*.

When lime, whether it exists in a state of a hydrate obtained by slaking, or is in a caustic or half caustic state, is long exposed to the open air, it gradually absorbs carbonic acid from the atmosphere, and is more or less perfectly converted into a carbonate, or in that condition in which it existed before burning. In this state, it possesses no caustic nor alkaline properties, but is properly called *mild lime*.

In slaking lime for agricultural purposes it is acceded, as a general rule, that the mode which gives it the greatest bulk, and at the same time reduces it to the most minute state of division is the best. This may be effected by laying up the burnt limestone, or shells, into heaps in the air, and allowing them to draw moisture and carbonic acid from the atmosphere, where they will fall to powder of themselves. In practice, it is preferable to cover these heaps with sods, and leave them for several months, till the lime has completely fallen, or slaked, or till the time is convenient for laying it upon the land. Thus it is often carted into the field, in winter, covered up in heaps, and applied to the land, in spring, or summer, when preparing for green crops. The lime seldom becomes very hot when slaked in this way unless heavy rains happen to fall, when the surface of the lime heaps sometimes becomes so hot as to char and even set fire to the sods by which they are covered, and

convert the whole heap into mortar. When thus spontaneously slaked, rich limes increase in bulk from three to three and a half times. Poorer limes, such as contain much earthy matter, may not swell more than double their bulk. This mode is regarded as the least expensive, requires the least care and attention, and exposes the lime least to become chilled and gritty. And besides, it excludes the too free access of the air, which gradually brings back the lime to a carbonate, or mild state.

The following table exhibits the chemical changes which a ton of limestone undergoes, and the relative proportions in which the several compounds exist in it after it has been burned, slaked, and then exposed to the air, or mixed with the soil, as given by Professor Johnstone.

| COMPOSITION.      | Limestone.       | After burning    | After slaking.   | Spontaneously Slaked. | Exposed to the air or in the soil. |
|-------------------|------------------|------------------|------------------|-----------------------|------------------------------------|
|                   | Cwt.             | Ctw.             | Cwt.             | Cwt.                  | Cwt.                               |
| Lime .....        | 11 $\frac{1}{2}$ | 11 $\frac{1}{2}$ | 11 $\frac{1}{2}$ | 11 $\frac{1}{2}$      | 11 $\frac{1}{2}$                   |
| Carbonic acid ... | 8 $\frac{3}{4}$  | —                | —                | 2 $\frac{3}{4}$       | —                                  |
| Water, .....      | —                | —                | 3 $\frac{1}{2}$  | 1 $\frac{1}{2}$       | 8 $\frac{3}{4}$                    |
| Total weight....  | 20               | 11 $\frac{1}{2}$ | 14 $\frac{1}{2}$ | 15 $\frac{1}{2}$      | 20                                 |

### Try more Parsnips.

We have often advised the culture of parsnips to a greater extent than has ever hitherto been done here but with not much success as yet. We, however, venture to reiterate our advice on this topic, with hopes that some body will venture on the culture of this valuable root on a larger scale than a seven or nine bed. They are easily cultivated, the principal requirements being a good deeply pulverised soil, good new seed and yearly sowing. If possible, obtain seed of the previous year's growth. Parsnip seeds contain quite a large

amount of oil, and if not kept in a pretty cool place this oil will become rancid and spoil the vegetative powers. They also require a long time to germinate, and hence should be sowed early in the season. Indeed if sown in the autumn just before the ground is closed by frost, they will vegetate quite early in spring, and afford a much better crop.

The after culture is very simple, requiring nothing more than keeping them free from weeds. In the fall they may be dug and kept in a good cellar, and covered over with sand, and a part of them allowed to remain in the ground where they grew, for digging in the spring. The Editor of the American Farmer in urging the culture of roots upon the farmers of this section of the country, says of the parsnip, that it is a root of much intrinsic value, whether we consider its fine edible qualities as a table vegetable, or regard it as a cattle food. Hogs eat parsnips with great avidity, and fatten on them readily. All the pork of the island of Guernsey is fattened with parsnips, which pork is said to be of sweet and delicious flavour.

Milk cows fed upon parsnips out fine, mixed with chopt straw or hay, and a small quantity of meal or bran, afford large flows of delicious milk, and rich cream, while the butter made from the latter is of the finest nutty flavor.

Indeed, all domestic animals are fond of parsnips, and thrive upon them. As an alterative food for horses, nothing is more grateful to that animal, than an occasional feed of parsnips or carrots. A peck of either root cut up fine and mixed with a peck of cut hay or straw, and half a gallon of chopt oats or rye, with a handful of salt makes a most invigorating meal for a horse a few such feeds a week, open his hide, soften his hair, and keep his system in a healthful condition."

## Cultivation of Cabbage.

The cabbage is a plant which requires rich and well cultivated ground. There is no vegetable which is more influenced by careful and thorough cultivation and plentiful manuring, than the cabbage. In fact, the success of the crop depends almost entirely upon the treatment it received. It is a frequent complaint, among farmers, that their cabbages will not grow with long stalks and small heads, or none at all. The failure is generally thought to be produced by the season being too wet or too dry, or else the seed was poor; but in almost every instance want of care in preparing the ground, and in after culture, was the main cause of the failure.

The two following methods have generally procured good crops — either is good :

Early in spring, sow your seed in a warm border, after thoroughly mixing some well rated manure with the soil, and making it smooth and fine. If insect deprators attack them, sift ashes or lime over the young plants; for, besides keeping away the insects, the ashes will make the plants grow nicely.

Having got the ground ready where the plants are to stand, it must be well manured and mellow; dig as many holes as you wish to set plants; in each hole place a small shovelfull of manure, and cover it with soil, thereby filling the hole even with the surface of the ground; then remove the plants from their bed, be careful to remove as much earth as convenient with the roots. It is best to remove them on a cloudy day or just at night. Pressing the soil firmly around the roots, after they are transplanted, and water for a few days if the weather is warm and dry. The plant should be set in rows, three feet apart, and two feet apart in the rows. After the plants are firmly rooted, and commence

growing finely, the soil should be kept clean of weeds, and frequently stirred around the plants. Some farmers even make it a practice to hoe their cabbages every other day during the commencement of their growth; and when time will permit it is none too often.

The other method is to carefully prepare the ground as early in spring as possible; dig holes as before, in rows three feet apart and two feet apart in the row; fill the hole with manure; cover with soil, and plant on the surface three seeds in a hill, and cover an inch in depth. Let them grow until the plants are three inches in height, then remove the smallest to some other place, where they may be wanted to fill vacancies. The cultivation should be the same as in the other method. By sowing the seed where the plants are to stand, it saves transplanting, which as a necessity checks the growth of the young plants.

Liquid manure is excellent for cabbages, and ashes tend to make them grow thriftily; and, when the plants are small, it is an object to force them forward as fast as possible beyond the reach of insects that sometimes destroy the best efforts of the farmer, and the crop proves a failure; but with liberal manuring, good cultivation, and proper soil, and a watchful eye on the young plants, a good crop is almost certain. For the farmer who cultivates only for the use of his family, the above methods are as good as can be produced; or, at least after careful experiments in different ways, they have proved so to the writer. — *Genesee Farmer.*

MONTHLY METEOROLOGICAL REPORT

For February 1858.

BAROMETER.

|  |            |
|--|------------|
| Mean reading of the barometer F inches corrected and reduced to... | 32° 29 309 |
| Highest reading of the barometer the 13th day.....                 | 30° 330    |
| Lowest reading of the barometer the 10th day.....                  | 29° 201    |
| Monthly range.....   | 1° 129     |

THERMOMETER.

|  |                      |
|--|----------------------|
| Mean reading of the standard thermometer.....  | 7° 56                |
| Highest reading of the maximum do the 27th day....                                       | 39° 4<br>below zero. |
| Lowest reading of the minimum do the 13th day.....                                       | 30° 2                |
| Monthly Range.....   | 69° 6                |
| Mean of humidity.....  | 0° 703               |
| Greatest intensity of the suns rays.....   | 62° 1                |
| Lowest point of terrestrial radiation.....   | 31° 2<br>below zero. |
| Amount of evaporation in inches.....   | 0 000                |
| Rain fell on 1 day in app.   |                      |
| Snow in 8 days, amounting to 17.58 inches, it snowed during 53 hours and 45 minutes..... |                      |
| Most prevalent wind W. by S.   |                      |
| Least prevalent wind E.....  |                      |
| Most windy day the 10th day, mean miles per hour.....                                    | 17 m. 31.            |
| Least do do the 13th day do do   | 0 14                 |
| One was present in moderate quantity.....  |                      |
| Aurora borealis visible on 1 night.....  |                      |

Montreal Market Prices.

CORRECTED BY THE CLERK

OF THE

Bonsecours Market.

Montreal. May 6th, 1858

|                                  |              |
|----------------------------------|--------------|
| Flour, Country, per quintal..... | 11 6 to 12 2 |
| Oatmeal, do.....                 | 9 6 to 10 0  |
| Indian Meal, do.....             | 0 0 to 0 0   |

GRAINS.

|                                      |             |
|--------------------------------------|-------------|
| Wheat, per minot,.....               | 5 0 to 5 6  |
| Barley, do.....                      | 2 6 to 3 0  |
| Peas, do.....                        | 3 9 to 4 0  |
| Oats, do.....                        | 1 8 to 1 9  |
| Buckwheat, do.....                   | 2 0 to 2 2  |
| Lower-Canada Indian Corn, do, yellow | 4 0 to 4 6  |
| Rye, do.....                         | 0 0 to 0 0  |
| Flax Seed, do.....                   | 5 0 to 5 6  |
| Timothy, do.....                     | 9 0 to 10 0 |
| Brass, do.....                       | 0 0 to 0 0  |

FOWLS AND GAME.

|                                |             |
|--------------------------------|-------------|
| Turkeys (old) per couple,..... | 8 9 to 10 0 |
| Do (young) do.....             | 0 0 to 0 0  |
| Geese, do.....                 | 5 0 to 5 6  |
| Ducks, do.....                 | 3 0 to 3 6  |
| Do Wild, do.....               | 0 0 to 0 0  |
| Fowls, do.....                 | 3 0 to 3 6  |
| Chickens, do.....              | 0 0 to 0 0  |
| Pidgeons, Tame, do.....        | 1 0 to 1 3  |
| Partridges, do.....            | 0 0 to 0 0  |
| Hares, do.....                 | 1 0 to 1 5  |
| Plover, do.....                | 0 0 to 0 0  |
| Woodcock, do.....              | 0 0 to 0 0  |

MEATS.

|                               |              |
|-------------------------------|--------------|
| Beef, per lb.....             | 0 4 to 0 9   |
| Pork, do.....                 | 0 5 to 0 6   |
| Mutton, do.....               | 0 5 to 0 7   |
| Do per qr.....                | 5 0 to 7 6   |
| Beef, per 100 lbs.....        | 35 0 to 45 0 |
| Pork, fresh, in carcass,..... | 25 6 to 32 6 |

DAIRY PRODUCE.

|                                |            |
|--------------------------------|------------|
| Butter, Fresh, per lb.,.....   | 1 3 to 1 5 |
| Do Salt do.....                | 0 7 to 0 8 |
| Cheese (skin milk) per lb..... | 0 6 to 0 8 |
| Do (sweet) do.....             | 0 0 to 0 0 |

VEGETABLES

|                                 |            |
|---------------------------------|------------|
| Beans, American, per minot..... | 0 0 to 0 0 |
| Do Canadian, do.....            | 7 6 to 8 0 |
| Potatoes, per bag.....          | 3 9 to 4 0 |
| Turnips, do.....                | 0 0 to 0 0 |
| Onions, per minot.....          | 0 0 to 0 0 |

SUGAR AND HONEY.

|                           |            |
|---------------------------|------------|
| Sugar, Maple, per lb..... | 0 6 to 0 6 |
| Honey, do.....            | 0 0 to 0 0 |
| Bee's Wax do.....         | 0 0 to 0 0 |

MISCELLANEOUS.

|                              |              |
|------------------------------|--------------|
| Lard, per lb.....            | 0 10 to 0 12 |
| Eggs (fresh) per dozen,..... | 0 11 to 1 0  |
| Halibut, per lb,.....        | 0 7 to 0 8   |
| Haddock,.....                | 0 3 to 0 0   |
| Apples, per barrel,.....     | 10 0 to 20 0 |
| Oranges, per box,.....       | 37 0 to 0 0  |

**TO FARMERS !**

THE Subscribers offer for Sale—

750 bbls } Nova Scotia Land Plaster  
1000 bags }

The advantages of buying Bags instead of Barrels will be apparent when it is remembered that the latter contain 230 lbs and cost 6s. 3d., while the former, holding 200 lbs, are 5s. with a seamless cotton bag worth 1s. 4d. included.

LYMANS, SAVAGE & CO.  
226 St. Paul Street,  
(Successors to W. Lyman & Co.)  
April 1st, 1858.

**Crown Lands Department.**

Toronto, 10th December 1857.

NOTICE is hereby given that about 21,800 acres of Crown Lands in the 4th., 5th, 6th and 7th range and range A in the Township of Ashford will be open for Sale on condition of actual settlement, on and after the 11th day of January next.

For particulars, apply to the local Agent F. Tétu, Esq. at St. Thomas, County of L'Islet, C. E.

**THOMAS COUILLARD,**  
*IMPORTER,*

No. 165, ST. PAUL STREET, MONTREAL.

Farmers will always find at the above address, a large assortment of Agricultural and Horticultural Implements, such as : Shades, Rakes, Scythes, Shovels, Plough Shares, Pitchforks, Hoes, Stay-Reeds, &c.

—ALSO—

Sugar and Potash Kettles, Stoves of all sorts, Furnaces with Boilers, cast Iron of every description and a large assortment of

**Shelf Goods.**

Nov. 1857.

**J. LEDUC,**

LATE AGENT OF L. RENAUD & FRERE,  
MONTREAL,

COMMISSION & BROKER,

CHICAGO, ILL.,

Office :—No. 6, Dearborn St.

March 1858.

**FRESH SEEDS, 1858.**

LYMAN, SAVAGE & CO. (successors to Wm. Lyman & Co.) have just received from Europe and the United States their usual and very extensive supplies of GARDEN, FIELD and FLOWER SEEDS, which they offer to Country Merchants, Farmers and Gardeners, upon liberal terms. The Seeds are the growth of 1857, imported from the most reliable houses, and are warranted true to their names. Amongst them are the following :—

200 lbs Blood Beet  
100 lbs Sugar do  
200 lbs Early York Cabbage  
200 lbs Drumhead do  
100 lbs Low Dutch do  
50 lbs Large French York do  
50 lbs St Denis do do  
28 lbs Red Dutch Pickling do  
20 lbs Assorted Paris Cauliflower  
500 lbs Long Orange Carrot  
400 lbs White Belgian do  
200 lbs Early Farm Cucumber  
100 lbs Long Green do  
500 lbs Mangle Wurtzel, Long Red  
200 lbs do do Yellow Globe  
1000 lbs Red American Onion  
500 lbs Yellow do  
100 lbs White do  
50 bushels Assorted Garden Peas  
10 do Radish assorted  
20 do Yellow Aberdeen Turnip  
60 do Yellow Sweede do  
20 do White Globe do  
10 do Early Stone do  
200 do Indian Corn, various kinds  
50 do Spring Tares  
Long Vermont Clover  
Do Rawdon do  
Do Dutch do  
Upper Canada do  
White Dutch do  
Lucerne  
Timothy, English Lawn Grass  
Hemp, Canary and Rape Seeds  
&c., &c., &c.

March 1st.

**VETERINARY INFIRMARY.****DR. FELIX VOGELI**

Graduated in the French Government schools and formerly Veterinary in Chief in the French Artillery and Cavalry. Short and full treatment of all horse and cattle curable diseases, 11, Bonsecours Street, Hôtel du Peuple, Montréal. Horses bought or sold on order.

October 1857.

**NOTICE**

TO  
**FARMERS.**

THE MUTUAL FIRE INSURANCE COMPANY of the County of Montreal continues to insure farmers and other rural properties of the same description at 5¢ per £100 for three years, with a premium rate of five pounds per hundred pounds insured to be assessed according to the losses and the expenses of the Company.

The amount insured now is over TWO MILLIONS OF DOLLARS.

**2,000,000 Dollars.**

Apply at the office No 1, St. Sacrement street Montreal or to the undersigned Directors.

- M. Edw. Quin, President. Long-Point.
- Joseph Lapotte, Pointe-aux-Trembles.
- Eustache Prudhomme, Côteau-St.-Pierre.
- Walter Benny, Montreal.
- Benj. Comte, do
- P. Malot, Belœil.
- M. F. Valois, Pointe-Claire.
- Leopold Desrosiers, Berthier
- Wm. Boa, St.-Laurent,

P. S. LE TOURNEUX.

Secretary and Treasurer.

(Montreal, 12th Janv. 1858.



**TO FARMERS !**

**FIE E DUFRESNE,**

MANUFACTURER OF

**BOOTS AND SHOES,**

AT LOW PRICES,

Wholesale and Retail,

NO. 123,

CORNER OF ST. GABRIEL AND  
NOTRE-DAME STREETS,

Sign of the Little Red Boot.

September 1857.



**Dr. Picault's Medical Hall,  
42, NOTRE-DAME STREET,  
MONTREAL.**

THE most approved Medecines for the diseases of Horses and Cattle will always be found at the above address.

— ALSO :—

Consultations and treatment of all diseases by Drs. Picault, father and son, Drugs of all sorts, French Patent Medecines, &c.

September 1857.

**Worthy of Recommendation.**

MR. J. B. ROLLAND'S Library has always been remarkable for the choicest and most complete assortment of

**Books on Agriculture,**

**Papers,**

**Pictures, &c.,**

to be found in this City, his prices will be found as low as those of any other book store.

September 1857.



**Bureau of Agriculture  
and Statistics,**

Toronto, July 28th, 1856.

HIS EXCELLENCY THE GOVERNOR GENERAL, has been pleased to approve of the method of distribution of the LAND IMPROVEMENT FUND, prescribed by the Order in Council herewith, published in the hope that a judicious and economical management thereof may be thereby insured.

A Circular from the Department will be received by the Head of each Municipality, stating the amount at the disposal of such Municipality.

As the best season of the year for making improvements to which the Fund is applicable is close at hand, it is recommended that the preparations for the appropriation of the Money be made as soon as possible.

The Order in Council is as Follows:—

It is ordered that the Funds derived from the sales of Lands in each particular Township, or other Municipality, and applicable to the purposes of the Fund formed under the 14th Section of the Act 16 Vic., Ch. 159, and not already apportioned, be applied to the making, maintaining, altering, or improving of the Roads or Bridges in each of those Townships, or other Municipalities, respectively, and be for this purpose, distributed and disposed of by and through the Municipal Council of each such Township or other Municipality. Each such Council to report to the Bureau of Agriculture the manner of Expenditure of all such Monies on the FIRST DAY of JANUARY and JULY, in each year, and at any intermediate time within ten days after having been called upon so to do, by that Department.

Certified,

W. H. LEE, C. E. C.  
P. M. VANKOUGHNET.



## Bureau of Agricultural Statistics,

Toronto, 25th July, 1856.

### To Emigrants and others seeking lands for Settlement.

The PROVINCIAL GOVERNMENT have recently opened out THREE GREAT LINES OF ROAD, now in course of completion, and have surveyed and laid out for Settlement the Lands, through, and in the vicinity of which those Roads pass.

The Roads, as advertised by the Agents of the Government, appointed to the respective localities to afford information to the Settler, are known as "THE OTTAWA AND OPEONGO ROAD," "THE ADDINGTON ROAD" and "THE HASTINGS ROAD."

## The Ottawa and Opeongo Road

Commences at a point on the Ottawa River, known as "Ferrall's," a little above the mouth of the Bonchere River, and runs in a Westerly direction, passing through the northerly part of the County of Renfrew.

It is intended to connect this road with a projected line of road known as "Bell's Line" (leading to the Lake Muskako, and Lake Huron, by a branch which will diverge from the Opeongo Road in the Township of Brudnell, at a distance of about 53 miles from the River Ottawa, forming with "Bell's Line," a great leading road, or base line from the Ottawa to Lake Muskako, 171 miles in length, passing through the heart of the Ottawa and Huron Territory, and opening up for settlement a vast extent of rich and valuable land.

This road, and the country through which it passes, now open for settlement, is easily accessible, and the Agent for the granting of Lands in this district is Mr. T. P. French, who resides at Mount St. Patrick, near Renfrew, on the Opeongo Road, a few miles from the Lands which are to be granted. To reach the section of Country under Mr. French's charge the Settler must go from MONTREAL up to the Ottawa River to a place called Bonchere Point, and thence by land come twenty-five or thirty miles westward to the Township of Grattan, in which Mount St. Patrick is situated.

## The Addington Road

Commencing in the Townships of Anglesea in the northern part of the county of Addington near the Village of Flints Mills, in Kaladar, runs almost due north to the River Madawaska, a distance of 35 miles—and is to be continued thence for the distance of 25 miles till it intersects the Ottawa and Opeongo Road.

The Agent for the granting of the Land in this district is Mr. E. Perry, who, for that purpose, is now resident at the Village of FLINTS MILLS. The outlines of five townships of very superior land are already surveyed and ready for Settlement within the limits of the Agency, lying north of Lake Massanoka, and between it and the River Madawaska. The Townships are

called respectively Abinger, Denbigh, Ashley, Effingham, Anglesea, and Barrie.

The direct route to this Section is by way of KINGSTON, Canada West, thence, to NAPANEE, either by land or Steamboat, and thence North to the Township of Kaladar, and the Village of FLINTS MILLS where Mr. Perry resides.

## The Hastings Road

Almost paralld to the Addington Road, and at a distance West from it of about 32 miles is the HASTINGS ROAD. This Road beginning at the northern part of the County of Hastings, and running a distance of 74 miles, almost due north, also intersects the OTTAWA AND OPEONGO ROAD and its extensions.

The Government Agent is Mr. M. P. Hayes, who resides at the Village of Hastings, lately called Madoc, about 28 miles north of the town of Belleville. The Road between these places is in good order—The land to be granted by the Crown under this Agency extends from 15 to 70 miles north of the Village of Hastings. The Road through this large extent of land is passable for 40 miles, and money is now being expended to extend it 30 miles further, so that Settlers can get in and out without difficulty, and find a good market for surplus produce, as well as convenient facilities for bringing in what ever supplies they may require—abundance of which can be had at the Village of Hastings, where the Government Agent resides.

The direct way to reach this Section which is easily accessible, is by KINGSTON, Canada West, thence by Steamboat up the Bay of Quinte to BELLEVILLE, 56 miles, and thence by a good Road to HASTINGS, 28 miles.

In order to facilitate the Settlement of the Country and provide for keeping in repair the Roads thus opened: the Government has authorized Free Grants of Land along these Roads, not to exceed in each case ONE HUNDRED ACRES, upon application to the Local Agents, and upon the following.

## Conditions.

That the Settler be eighteen years of age.

That he take possession of the land allotted to him within one month, and put in a state of cultivation at least twelve acres of the land in the course of four years.—build a house (at least 20 by 18 feet) and reside on the lot until the conditions of settlement are duly performed; after which accomplishment only, shall the settler have the right of obtaining a title to the property. Families comprising several settlers entitled to lands, preferring to reside on a single lot will be exempted from the obligation of building and of residence, (except upon the lot on which they live) provided that the required clearing of the land be made on each lot. The non-accomplishment of these conditions will cause the immediate loss of the assigned lot of land, which will be sold or given to another.

The road having been opened by the Government, the settlers are required to keep it in repair.

The Local Agents, whose names and places of abode have already been given, will furnish every information to the intending settler.

The LOG-HOUSE required by the Government to be built, is of such a description as can be put up in four days by five men. The neighbours generally help to build the Log-cabin for newly arrived Settlers, without charge, and when this is done the cost of the erection is small; the roof can be covered with bark, and the spaces between the logs plastered with clay, and white-washed. It then becomes a neat dwelling, and as warm as a stone-house.

The Lands thus opened up and offered for settlement, are, in sections of Canada West, capable both as to Soil and Climate, of producing abundant crops of winter wheat of excellent quality and weight, and also crops of every other description of farm produce, grown in the best and longest cultivated districts of that portion of the Province, and fully as good.

There are, of course, in such a large extent of country as that referred to, great varieties in the character and quality of land—some lots being much superior to others; but there is an abundance of the very best land for farming purposes. The Lands in the neighborhood of these three roads will be found to be very similar in quality and character, and covered with every variety

of Timber—some with hard wood, and some with heavy pine.

Water for domestic use is every where abundant; and there are, throughout, numerous streams and falls of water, capable of being used for Manufacturing purposes.

The heavy timbered land is almost always the best, and of it, the ashes of three acres—well taken care of and covered from wet,—will produce a Barrel of Potash, worth from £6 to £7 currency. The capital required to manufacture Potash is very small, and the process is very simple and easily understood.

The expense of clearing and enclosing heavily Timbered Lands, valuing the labor of the settler at the highest rate, is about **FOUR POUNDS** Currency per Acre, which the first wheat crop, if an average one, will nearly repay. The best timber for fencing is to be had in abundance.

A Settler on these lands, possessing a capital of from £25 to £50, according to the number of his family, will soon make himself comfortable, and obtain a rapid return for his investment. The single man, able and willing to work, needs little capital, besides his own arm and axe—he can devote a portion of the year to clearing his land, and in the numerous lumbering establishments, he can, at other seasons, obtain a liberal remuneration for his labor.

The climate throughout these Districts is essentially good. The snow does not fall so deep as to obstruct communication; and it affords material for good roads during the winter, enabling the farmer to haul in his firewood for the ensuing year from the woods, to take his produce to market, and to lay in his supplies for the future—and this covering to the earth, not only facilitates communication with the more settled parts of the District, but is highly beneficial and fertilizing to the soil.

In all the localities above named, wherever Settlers have surplus produce, there is a good market for it near to them—farm produce of all kinds being in great demand by the Lumber or Timber Merchants, who are carrying on extensive operations through these parts of the country.

According to the ratio of progress which Canada West has made during the last ten years, the value of property on an average

doubles within that period; irrespective of any improvements which may have been made by the Settlers.

In many Counties the value of Land, once opened for settlement has increased **FIVEFOLD** in the period named, but the average value of such land, according to the statistics of Canada West, **DOUBLES EVERY TEN YEARS** in the mere lapse of time, exclusive of any expenditure thereon—and it is not too much to expect that this ratio will not diminish for generations to come.

The Sections of Country opened by these roads lie in and to the Southern part of the Great Ottawa Region, stretching from and beyond them to the shores of Lake Huron, to Lake Nipissing, and to the Ottawa River—an immense extent of country whose resources are now seeking and will rapidly obtain development.

**THE OTTAWA COUNTRY**, lying south of Lake Nipissing and of the great River Ottawa, and embracing a large portion of the land offered for settlement, is capable of sustaining a population of **EIGHT MILLIONS OF PEOPLE**, and it is now attracting general attention, as the more western portions of Canada are being rapidly filled up.

The Parliament of Canada in its last Session, incorporated a company for the construction of a Railway to pass through this Ottawa country from the Shores of Lake Huron to the City of the Ottawa, and thence Eastward.

A survey of the River Ottawa and the neighbouring Country has been undertaken, and will be completed in the present year, its principal object being to ascertain by what means the River Ottawa can be rendered navigable and connected with Lake Huron so as to enable vessels to pass by that route from the most Western Waters into the River St. Lawrence and the Ocean. These projected works are alluded to, in order to show that the attention of the Government, Parliament and people of Canada has been fixed upon this important portion of the Province.

P. M. VANKOUGHNET,  
Minister of Agriculture, &c.