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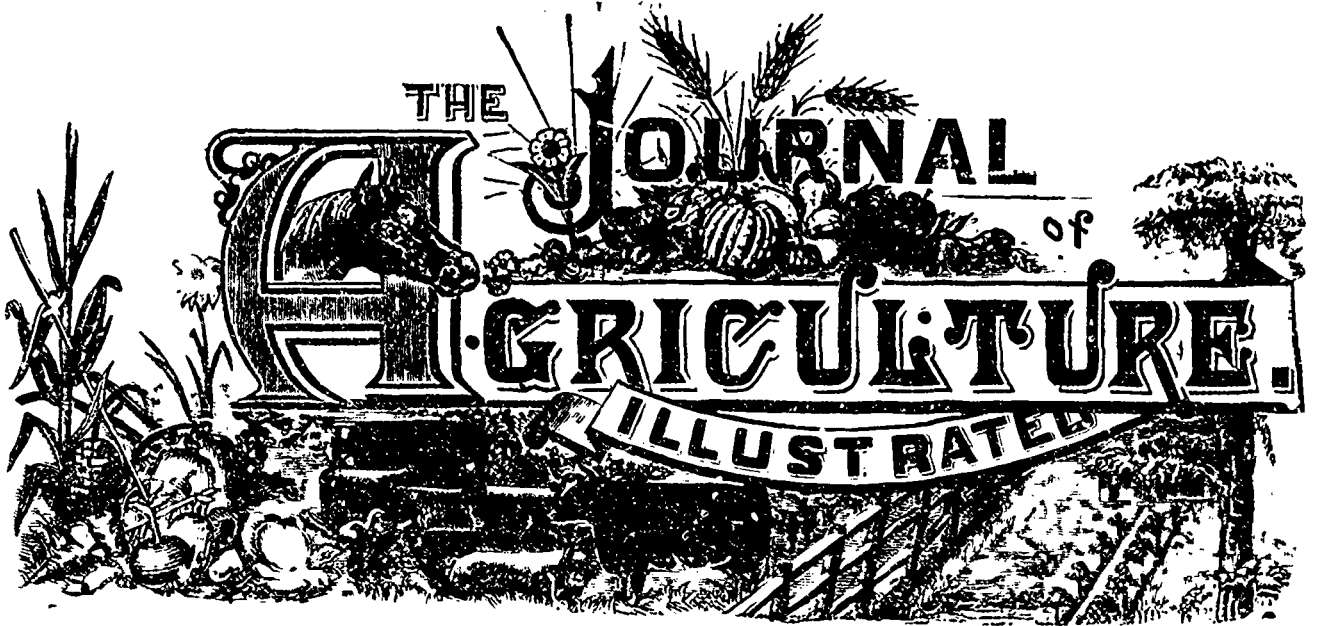
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## OFFICIAL PART.

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Deliberations of the Council of Agriculture of the  
Province of Quebec.

Approved by the Lieutenant-Governor in Council,  
March 20th, 1886.

QUEBEC, February 3rd, 1886.

Present : The Hon. the Commissioner of Agriculture, the Hon. L. Archambault, Géd. Ouimet, and Messrs. L. Beaubien, L. H. Massie, C. Gibb, E. Casgrain, J. L. Lemyre, C. Gauthier, J. Marsan, A. Casgrain, A. Casavant, S. N. Blackwood, H. J. Martin, J. M. Browning, Revd H. Pilote, et M. S. Lesage, deputy-commissioner of agriculture.

M. L. Massie in the chair :

The minutes of the last meeting were read and approved.

The President delivered his annual address, in which, after having reviewed the work of the council during the

past year, he enlarged upon certain points which he commended to the study and consideration of the members.

M. P. Benoit, seconded by M. E. Casgrain, moved : That this council receive and adopt the report of the president, congratulating him on the skilful manner in which it is composed, and thanking him for the excellent suggestions therein contained.

Resolved unanimously : That M. L. H. Massie be re-elected president of this council for the present year.

M. O. Gauthier, seconded by M. A. Casavant, moved : That Mr. J. M. Browning be re-elected vice-president of this council for the present year. (Carried.)

#### Executive Committee.

M. L. Beaubien, seconded by M. O. Gauthier, moved : That the executive committee be composed of the same members as last year, with M. Massie as president.

#### Horticultural Societies.

Resolved : that the committee on Horticultural Societies be composed as follows :

Mr. Chas. Gibb, president, Messrs. L. Beaubien, J. L. Lemyre, and E. Casgrain.

#### Visiting Committee on Schools.

Mr. J. M. Browning, seconded by M. L. Beaubien, moved. That the Visiting Committee on Schools be composed as follows. The Hon. G. Ouimet, president, Messrs. S. N. Blackwood, A. Casavant, J. L. Lemyre, and the Revd. F. Pilote. (Carried.)

The report of the Visiting Committee on Agricultural Schools was then read.

Resolved. That the report be received, and that the thanks of the council be offered to the Hon. L. Archambault

for the excellent remarks and suggestions contained in his report.

The report of the Director of the St. Adne's agricultural school was read.

Resolved : That the report be received.

And the council adjourned at 2 P. M.

#### SESSION OF 2 P. M.

The same being present, the Secretary read the report of the Director of the Agricultural School at L'Assomption, and that of Mr. S. N. Blackwood of a visit made by him to the Montreal Veterinary School during the examination of, and the distribution of diplomas to, the graduating pupils of that institution.

Mr. J. M. Browning, seconded by M. P. B. Benoit, moved :

That the different reports of the directors of agricultural schools, as well as the report of Mr. Blackwood, be referred to the visiting committee on schools, with instructions to study them and to make a report at the next meeting of the council, the report to contain a condensation of the chief remarks and suggestions therein to be found, which may hereafter furnish a subject for discussion by the council. (Carried.)

M. L. Beaubien, seconded by the Hon. G. Ouimet, moved :

That those pupils, in their last year, of the provincial agricultural schools who shall have given full and entire satisfaction to their teachers be rewarded in a special manner by being assisted next autumn to visit the Exhibition of the State of New York.

M. Benoit, seconded by Mr. S. N. Blackwood, moved, in amendment : That the words "State of New York" be expunged and replaced by the following words : "Sherbrooke and its neighbourhood."

The amendment, being put to the vote, was carried on the following division :

For : Messrs. Gauthier, Lemyre, Marsun, Benoit, Casgrain, Casavant, A. Casgrain, Chas. Gibb, Blackwood, Browning. (10).

Against : The Hon. G. Ouimet, M. L. Beaubien. (2).

The original motion was lost on the same division.

A request was read, from "The Agricultural Association of the Eastern Townships," asking permission to give to the next exhibition, which is to be held in the coming autumn, the name of "The Provincial Exhibition of the Province of Quebec," and further praying that the council recommend the hon. Commissioner of agriculture to allow the public funds, voted for exhibitions of this kind, to be handed over to the Agricultural Association of the Eastern Townships, at least for this year.

M. L. Beaubien, seconded by M. P. B. Benoit, moved : That inasmuch as the Agricultural Association of the Eastern Townships is making application to the government for the purpose of obtaining leave that the next provincial exhibition be held at Sherbrooke, and that the organisation of the said exhibition be entrusted to it,

And seeing that the said Association is competent to undertake successfully the carrying out of the said exhibition, and that it is but right that this year the provincial exhibition be held at Sherbrooke, at which place it has not been held, since 1862,

The council recommends that the next provincial exhibition be held at Sherbrooke, on the land of the Agricultural Association of the Eastern Townships, and, that in conformity with paragraph b Vict. 48, Cap 7, Sect. 1, certain powers, conferred on the permanent committee of Provincial Exhibition, be suspended until the issue of a new order, and be transferred to the new association, in order to allow it to organise and carry on the ensuing exhibition, and that

such assistance as may seem fit to the government be granted to it for such purpose. (Carried.)

And the Council adjourned to 8 P. M.

#### SESSION OF 8 P. M.

The same being present, the President called the attention of the council to certain dispositions of the act Vict. 48, Cap. 7, Sect. 5, relating to the distribution of the balance of the \$50,000, appropriated to the payment of the grant to the agricultural associations; the said act prescribing the manner in which this balance is to be distributed, and on what conditions.

The Hon. G. Ouimet, seconded by Mr. S. N. Blackwood, moved : That the secretary be instructed to devote attention to the balance of the \$50,000 voted for the payment of the grant to the agricultural associations of this province, to ascertain the amount of such balance, and, at the next meeting of the council, to report upon the manner in which the said balance should be distributed, in conformity with the dispositions of the act Vict. 48, Cap 7, Sect. 5. (Carried.)

A letter was read, from Mr. J. S. Williams, breeder of thoroughbred stock, requesting the council to have the kindness to buy from him several of his cattle, &c, for the purpose of distributing them among the agricultural societies, and thereby favouring the improvement of the stock of this province.

Resolved : That this council, from want of means, regrets much that it cannot encourage the laudable efforts of Mr. Williams by purchasing any of his thoroughbred stock; but the council recommends Mr. Williams to address a circular, with prices, to all the agricultural societies of the province, a list of which he can obtain from the secretary of the council.

The Hon. the Prime Minister gave some very interesting details concerning a visit he paid to the "Haras du Pin," when he was in France; noting the valuable qualities of the stallions he saw, particularly the points of the Normans and Percherons; and related to the council all the minute precautions taken by the French government to preserve and continue the purity of these races. The Hon. Premier, in conclusion, expressed a desire to see a "Haras National" established in this province, and he strongly advised the agricultural societies to make their importations direct from France.

The Hon. G. Ouimet, seconded by M. P. B. Benoit, moved : That thanks of the council be given to the Hon. Premier for the clear and instructive relation of his visit to the national horse-breeding establishments of France, and that the council views with favour the important subject of the introduction of studs of the kind mentioned into this province. (1)

M. S. Lesage, Deputy Commissioner of Agriculture, drew the attention of the Council of Agriculture to the dispositions of the act Vict. 48, cap. 7, sect. 2, which provides for the establishment of a herd-book for the different races of animals introduced into this province, especially as regards Canadian cattle and Canadian horses. M. Lesage declared that many excellent specimens, possessing all the characteristic marks of the Canadian breed, were to be found, a breed, the milk producing qualities of which are not surpassed by the best of the imported breeds; that this fact has been proved by the Dairy-association of this province, which has paid particular attention to the question, and which is so thoroughly convinced of its truth that it is ready to undertake the management of the herd-book, if the council will entrust to its

<sup>1</sup> *Haras*—from the Arabic *I fancy*—is the same as *stud* in English, which does not by any means signify an entire horse, but a collection of horses for a specific purpose; as, a hunting stud, a racing stud, a breeding stud.

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care the organisation and control of the work under certain conditions and rules which the association will with pleasure submit for the approbation of the council.

M. A. Casavant, seconded by M. E. Casgrain, moved : That, whereas the Dairymen's association, before the passing of the act Viot, 48, cap. 7, had taken praiseworthy steps towards the establishment of a herd-book and register, in conformity with section 2 of the said act, and that the said association had shown that it was in a position to put that part of the law into execution, this council, with the approval of the Hon. Commissioner of Agriculture, takes the said Dairymen's association as an assistant in carrying out the obligations of the said act, and entrusts it specially with the duty of preparing the said herd-book and register, a report on which books it is charged to make at the next meeting of the council.

This motion was carried on division, Mr. J. M. Browning voting against it.

The Premier informed the council that, in his opinion, the most efficacious and sure means of establishing model-farms in every county in this province would be to persuade all agricultural societies to hold "the competition for the best cultivated farms" at least three years in succession.

This question having been discussed at length by the council, M. S. Gauthier, seconded by M. J. L. Lemyre, moved :

That this council is of opinion that the "competition of the best cultivated farms" is the best means of favouring the establishment of model-farms in every county. That, in consequence, and in order to obtain this result, this council thinks it its duty to advise the agricultural associations to hold the said competitions at least three years consecutively, and takes advantage of the 6th section of the act Viot, 33, Cap. 6, to permit them to hold these competitions, as above mentioned ; and that the government be requested to take means to encourage the associations to hold these competitions. (Carried.)

A petition was read, from the Yamaska agricultural association, asking the council to permit the society to offer in prizes at the next exhibition a balance arising from the funds intended for the purchase of breeding stock, and, seeking power to distribute the full amount of the members' subscriptions in clover-seed, timothy seed, and other grass-seeds.

The council having considered the programme of operations submitted by the said association, as well as the fact that this association possesses already 14 thoroughbred animals, allows one half of the members' subscriptions to be spent in buying grass-seed ; but the other half and the balance derived from the funds for the purchase of breeding stock may be employed, for this year only, in increasing the prizes offered for stock at the projected exhibition of this association.

A request was read, from the members of the agricultural association of the county of Rouville, stating that since the rule of the council of agriculture, ordering that only one half of the members' subscription should be spent in grass-seed, went into operation, this association has accumulated the sum of \$909.00, that this county already has a great number of picked breeding-stock, and that, for these reasons, the directors of the association think that it would be the advantage of the association to employ their funds in the purchase of a piece of land in the centre of the country, where the exhibitions could be permanently held, and in the erections of proper buildings.

Resolved : That the secretary of the agricultural association of the county of Rouville be required to prove to the council that it has conformed with the demands of the law which regulates the manner in which the societies must pro-

ceed in such circumstances, and that a copy of its proceedings be sent to the council.

The programme of the Bellechasse agricultural association was read, in which, article 13, it is mentioned : "The subscription, which shall be \$5.00, must be paid on or before the 1st August, under pain of being excluded from the competition."

Resolved : That the secretary of that association be informed that the council cannot approve of this programme before having received explanations showing by what authority this association conceives itself to be supported in exacting a subscription of \$5.00, when the law does not allow the exacting of more than one dollar for admission.

The programme of the Nicolet agricultural association was read, showing that the subscription is to be \$2.00 payable up to 1st September next, distribution of grass-seeds one dollar : an agricultural exhibition to be held next autumn.

Resolved : That the council approves of the programme of this association, with the exception of the amount of the subscription which is fixed by law at \$1.00, and which must be paid before the 1st May every year, this part of the programme being illegal.

The programme of the agricultural association of the county of Champlain was read, proposing to employ half the subscriptions of the present year in payment of the balance due on the purchase of a stallion, the other half in the purchase of grass-seeds for distribution among the members, and asking leave to devote a certain sum, being the excess of the subscriptions of certain parishes of the county retained for the purchase of stock, in the purchase of grass-seeds for distribution in the above parishes alone.

Resolved : that the former part of this programme be approved, but as to the second, relating to the expenditure of the excess of subscriptions in grass seeds, the council cannot approve of it, and desires that the funds be expended in conformity with exigencies of the law.

The programmes of the agricultural associations of Huntingdon, No. 1, L'Islet, L'Assomption, Napierville, and Portneuf, being found in conformity with the law, are approved.

The President informed the council that, in conformity with one of its resolutions, he had caused to be made a translation into French of "Hough on Forestry," and that the manuscript is now in the secretary's hands ; and he requested the council to dispose of the same in a way that shall be useful to those interested in agriculture.

Resolved : That the council, convinced of the utility of Mr. Hough's book, recommends the government to cause it to be printed for distribution among the different agricultural and horticultural associations of this province.

M. Lesage, deputy commissioner of agriculture, explained to the council that the act Viot, 48, cap. 7, sect. 3, recommends the members of the agricultural associations to hold, at least twice a year, parochial or township meetings, to be called together and presided over by the oldest director of such parish or township. To these meetings, certain questions prepared by the Commissioner or by the council shall be submitted for discussion, and the secretary of each association shall be obliged to forward the answers to the questions within a fixed time.

Resolved . That, in conformity with the demands of the act Viot, 48, cap. 7, sect. 3, and with the desire of the Hon. Commissioner of Agriculture, the secretary of the council shall send a circular to all agricultural associations, requesting them, after discussing them, to answer the following questions :

1. What are the best methods of increasing the quantity of farmyard manure, of improving its quality, and for apply-

ing it with profit to the different crops, such as hoed crops, grain-fields, and meadows?

2. Is the use of artificial manures, such as guano, superphosphate, bonedust, lime, plaster, ashes, &c., in the absence of dung, advantageous to the farmer?

3. Which system do you think the more profitable, that which aims at the production of grain and hay for sale, or that which aims at the conversion, by cattle, of the produce of the farm into butter, cheese, or meat?

4. What kind of food for cattle in winter is the most profitable, and, at the same time, the most economical?

5. Which is the best method of forming good pastures?

6. Are the advantages of changes of seed great?

7. Does it pay to give green-meats to cattle in the summer?

8. What do you think of ensilage as a winter-food for cattle?

The Council then adjourned.

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GEORGES LECLÈRE,

Secretary.

(From the French.)

### Competition of Farms.—Portneuf.

In our previous articles we described the six farms to which prizes in this competition were awarded. We will now give a short analysis of the cultivation of those farms which were entered for the contest but failed to obtain prizes.

*Mr John West, Deschambault.*

Mr West has only had the farm for two years. He has already been very successful: for instance, two large fields, utterly worn out, which could not be manured for want of dung, have been broken up, the ridges re-formed, and after receiving a dressing of lime, laid down again in grass. This improvement has succeeded admirably. Mr West, a Scotchman, has begun a complete system of rotation, in tenths, beginning with a fallow-crop. This member of the rotation is well worked. In a few years, Mr West's farm promises to be one of the best cultivated in the county. His cattle are large, numerous, and well cared for.

There remains a good deal of work to do on this farm, as when Mr West took possession it was in an awful state. Mr West, as a prudent man would do, improves his land according to his means. He will certainly succeed, and he has our best wishes for the success he so well deserves. The system of cultivation here pursued will be reverted to in the comparison we purpose to make of the different heads of the programme.

*M. Louis Belisle, Deschambault.*

This farm has been much improved of late years. The stones have been gathered and made into fences, a roadway runs through the greater part of the farm, the ditches have been deepened, and commodious buildings erected, but there is no dung-pit. But there is plenty of work still to do, especially in the water-furrowing, which, here, is not easy of execution, though of course indispensable. Lime is at hand in abundance, and would be of immense use if the land were previously freed of its superfluous moisture.

In his dairy, M. Belisle uses creamers, advantageously too. There is no rotation pursued here. Three years in grain, three years in meadow, and one year in pasture. Cattle seemed to us in poor condition. Forage crops would be of advantage here as well as elsewhere.

*M. Marcotte, Saint-Basile.*

Here, we fall back into the 18th century: meadows at one end of the farm, with here and there a bit of ploughing where the grass was destroyed by the frost. As to the rest, half in grain half in pasture, turn about each year. However,

M. Marcotte does sow some modicum of grass-seeds. Few water-furrows but plenty of weeds. Large heaps of stones in the middle of the fields! A visit to M. François Couture would perhaps do M. Marcotte some good!

*M. Pierre Côté, Grondines.*

M. Côté is a dealer, and attends almost exclusively to his trade, to the utter neglect of his farm. It would be difficult to find any land richer than the alluvial deposits along this part of the Saint-Lawrence. Some small outlay in removing stones, in attending to the water-furrows, and more careful harrowing, would do marvels here. One piece of advice we must give M. Côté: if he were to devote the same amount of energy and good sense to his farm that he gives to his business, he would soon triple the returns derived from it. As to details, he will find all necessary information about them in this series of articles. If there is a man who, as far as we have seen, is able to forward the cause of agriculture, that man is M. Côté himself.

*Total points.*—As will be seen by the table No. 1, which we reproduce from the November number, out of a total of 190 points, the highest obtained by any competitor is only 131, or about  $\frac{2}{3}$ ; the tenth competitor only  $\frac{1}{3}$ . This, in our opinion, is enough to mark the extent of the improvements which remain to be made. Indeed, however advanced in his cultivation M. Couture may be, we hope that in ten years he will have doubled his returns and his profits. If he choose, M. Pierre Côté may quadruple his!

As to the rotation of ten years, beginning with a fallow-crop, Mr West is the only competitor who has attempted such a thing. All could do the same, if not by growing roots, at least by a bastard-fallow, followed by buckwheat manured. The fallow-crop is what every farmer in the province should aim at.

*Roadways.*—Here, M. Dufresne is certainly ahead of all his rivals. He has two! M. Belisle has one extending through half the farm. M. Jobin has begun one, but, as is the case with Messrs Alfred and Alex. Couture, his farm running alongside of a road, he and they could almost dispense with a farm-road. All the others can pass from field to field; but what a lot of gates, ditches, and water-furrows! Heaps of hinderances of all sorts. Now barb-wire fences are so cheap, no farm should be without a roadway. (1)

*Division fences.*—If we examine the farm-plans we have published, and if we bear in mind that a cedar fence cost today \$12 an arpent (= 191 ft. 10 in. English), we shall be tempted to exclaim: "What an extravagant outlay in divisions! What nice little corners for weeds to grow in! What inconvenient little patches to plough and harrow!"

Here, putting interest at 6% (it should be twelve, at least, as the fence won't last many years—A. R. J. F.) are 72 cents a year for that alone, plus about \$1 for keeping up and repairing the fence: in all \$1.72 an arpent. And let us take as an example the 2nd prize farm. Here, we have on 28 arpents long by 2 arpents wide, 33 arpents of division fences (*refentes*): a capital of \$396 invested in division fences without reckoning the cross-fences; i. e. an annual expenditure of more than \$60 for repairs, interest, sinking-fund, &c. They say that these fences retain the snow on the meadows. True enough, but what a lot that snow must cost, without reckoning the land lost, the weeds that ripen their seed, and the extra labour imposed if cross-ploughing and cross-harrowing are practised! (2)

(1) *Allée*, means a fenced road extending from end to end of a farm. I see every summer cows driven backwards and forwards through the growing crops to be milked!

(2) My friend Major Paul, of Ste. Anne de Sorel, tells me he has begun to cross-harrow.

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ing or for cutting green for summer consumption, are, at present, apparently unknown in the county of Portneuf. Some trials have been made with Indian corn, but without success. Probably, the seed was in fault, for, in our climate, not only must the seed come up, but it must grow with vigour and rapidity. We advise a trial, on a small scale, with Canadian corn, sown in very rich land, as soon as the ground is sufficiently warm.

*Crops (soles).*—As we remarked above, we imagined that the 50 marks offered, represented the maximum production, and upon that supposition, we gave the marks. Although we assigned  $\frac{2}{3}$  of the marks to three competitors, we firmly believe that they will, if they care to, more than double their present yields. Some of them are well on the way to triple them, and then agriculture will indeed be in a prosperous condition. Already, some of them can be cited as models: how will it be when they shall have doubled their present production?

*Summer- and bastard fallows.*—Although care may be taken, in preparing the land for buckwheat, to destroy the weeds, a single ploughing, however well it may be done, cannot constitute either a whole or a bastard-fallow. Let our counsels be followed out with care and intelligence, and we shall soon see, as a consequence of ploughing in heavy second crops of clover, that notable increase of our productions which we promise on the faith of our agricultural reputation.

*Green manuring.*—The system of ploughing in green crops is recommended by many, but very little practised in our province.

*Fruits trees.*—Very few of these are to be seen in this county. The marks offered have had the effect of causing several young orchards to be planted, and these seem in good condition. Let us hope that their future cultivation will not be neglected, and that these crops, which, besides being profitable, tend to render life in the country more pleasant, will end by becoming general.

*Farm-accounts.*—There is nothing of the sort to be met with! Nevertheless, there is nothing more useful (1) than an inventory made every year, about 1st April, of everything the farmer possesses, with its value in money; (2) a small note-book for cash-payments and receipts; (3) another or the same book should contain grain-crops, hay &c., pounds of meat butter, &c., produced each year; lastly, (4) a plan of the farm, showing the past course of cropping, date of manuring, and other leading facts connected with each field, with notes of the yearly results.

And now we have come to the end of our course, not, we hope, without having done some good. We should be glad to see detailed reports on the decisions given in future competitions. It seems to us that these competitions might with advantage take place from time to time—say, every four years—in every parish in each county; and again, once in four years, a competition open to the whole county upon the plan suggested above. Such a system would admit of the continuance of the county- and parish-exhibitions as they are to-day—every two years. By holding the competitions only once in four years, and alternatively with the regional ones, so that a county-competition would be held in one-fourth of the counties of the province every year, instead of holding them in all the counties in the same year, we might reckon upon having a greater number of competent judges. Then, they might be entrusted, from year to year, with the care of these competitions and obliged to render a detailed report of their operations.

We submit respectfully these ideas to the friends of agricultural progress in the province of Quebec, and we would gladly see them discussed either in this publication or elsewhere.

ED. A. BARNARD.

(From the French.)

I don't often go out of my way to pay compliments, but though I do not entirely agree with Mr. Barnard in one or two of his plans, I must say that the above is, as a whole, a most painstaking piece of work, and should serve as a model, on which to base their reports, to all the judges of "competitions of the best cultivated farms." A. R. J. F.

#### Cultivation of Cauliflowers.

The following is the way in which the Paris market-gardeners grow the cauliflower. The seed is sown in good garden mould, and watered moderately, but continuously, so that the plant is always in a succulent state.

When the young plant has thrown up a few leaves, it must be pricked out into a nursery-bed,  $2\frac{1}{2}$  to 3 inches apart. Raise the plants carefully, with a fork, to avoid breaking the rootlets, (having previously well watered the bed) and replant them at once, taking care not to let the earth fall off the roots.

Plough the permanent bed deeply; divide it into beds four and a half feet wide, on which set out two rows of plants three feet every way. In the beds, make holes 13 inches cube, and fill them with rich mould, or thoroughly rotten dung. In these the cauliflowers are to be set, and carrots, radishes, or lettuce may be sown in the intervals, taking care not to encroach too much on the territory of the cauliflowers.

Choose the plants with short stems. Those with long stems are liable to be blown about by the wind, which breaks the rootlets and stops the growth of the plant.

When the lettuce is gathered, mulch the bed with any rough manure you may find handy.

As long as the cauliflowers are young, they will need only moderate watering; but in proportion to their growth, so must be the proportion of water given. Sprinkle the leaves daily with two or three quarts of water. When the flower begins to form, the plant will require ten quarts, and later, twenty. Water with the rose, not with the spout.

As soon as possible after the formation of the flower, cover it with the lower leaves, so as to protect it from the action of the air. Remove all slugs and insects, and keep the flower covered continually until fit for gathering.

In the market-gardens round Paris, all these precautions are carefully carried out, as any neglect of them is known to diminish greatly the value of the crop. A fine cauliflower, perfectly white, is there worth from 40 to 50 cents, while a badly grown one, though perhaps, of the same size, will not fetch more than from 4 to 6 cents.

JOURNAL DES CAMPAGNES.

(From the French.)

I have seen as perfect cauliflowers at the Montreal Exhibition, 1879, as ever I saw in either the London or Paris markets: perfectly white and immensely large. They were grown by Mr. Davidson A. R. J. F.

#### Canadian Bulls.

The following is the reply of Dr Couture to the question: "Would you have the goodness to give us, in the next number of the Journal, the chief (distinctive) marks of the Canadian bull." A. O.

These descriptions are always more or less incomplete, for, apart from the colour, there is the general appearance, which cannot be described, but which, nevertheless, is one of the most characteristic marks of the race. This general appearance is what is known among human beings as "family like-

ness" Can it be described? Evidently not! Still, it is very distinctive. (1)

*Shape.*—The Canadian bull is small; about the same size as the Jersey.

*Colour.*—The coat is of different colours; as

Black;

Light red-dun (fauve);

Body dun, head and limbs brown;

White and light red;

Blue roan.

The following colours show that the animal is of mixed blood:

1. Red or white roan (Shorthorn);

2. Deep red all over (Ayrshire);

3. Head, extremities, and belly white, with red, more or less deep, body, (Hereford);

4. Black, polled (Galloway).

The inside of the Canadian bull's ear is often orange-colour, and a circle of light brown frequently is seen round the muzzle. Very desirable marks these, but not absolutely obligatory. The horns are short, turned inwards and slightly upwards (*Ayrshire type*?).

I am asked to say where a *good* Canadian bull can be found, and at what price.

I can easily say where pure-bred Canadian bulls can be found: in the county of Maskinongé, at Sainte-Ursule, at Saint-Justin, there are plenty, and of very pure blood. As to the price, that I can say nothing about.

But as to buying a *good* Canadian bull, that is another thing. The general opinion seems to be that good animals, both male and female, can be recognised by their general form, and that it is sufficient for a bull to be well shaped to be good as a progenitor of stock, that is to say, that he may be trusted to propagate such and such qualities as we are desirous of cultivating, whether the facility of fattening, the production of milk, or the production of butter, be the end in view. But that is by no means the case.

Were I in want of a bull, of a *good* bull, to get milch-cows, this is what I would do:

I would go into a district where the race of Canadian cattle has been carefully preserved in its purity, and I would hunt up the best cows there. I should find, probably, cows giving 16, 18, 20, 22, 24, and even 26 quarts of milk. I would look them all over to see if their owner's tale agreed with:

1. Their general form;

2. The shape and size of their udders;

3. Their general appearance;

4. The character of the skin of their udders;

All true indications of the value, as far as outward points go, of a milch cow. When these marks answered to the farmer's description of the quantity of milk given, I would try to buy the son of the best of the lot—if not the son, I would take the brother, but I should prefer the son.

If I could not get a bull from the best cow, I should have to be contented with one from the second-best. I would pay 25, 30, 50 dollars extra price, if necessary, but I would only buy my bull if he came from a cow of superior qualities.

A great deal too much trouble, do you say?

What trouble!

The truth is, I have no money to throw away in buying useless things. I can't afford to waste my time in rearing calves that may turn out to be worthless. It would not

(1) *Physiognomy* has been so completely changed from its original meaning as to signify in popular phrase the form of the face, instead of what the Greek word really means—judging of a man's character by his outward look—Hence, I prefer translating the French word *physionomie*, general appearance. Tran.—

answer my purpose to bring up heifers whom I might not find, when the time came to prove them, endowed with superior milk-giving propensities. (1)

And were I to buy a bull of unknown pedigree, the milking powers of whose relations were vague, whether a Jersey, a Holstein, a Shorthorn, an Ayrshire, or a Canadian, I should run the risk of losing my pains. In this case, I should risk:

1. Having a breeding animal possessed of no superior quality;

2. In consequence, I should risk, having bought a useless thing, incapable of transmitting milking properties;

3. I should risk having to spend my money in feeding heifers which will never be worth much;

4. I should put in jeopardy the future of my herd.

I repeat, I cannot afford this; and these are the reasons why, when I want a bull, I look for one the mother of which is a cow of superior qualities, the best in her district, if possible, and one, too, sprung from a sire the dam of which was also renowned for her milk-giving power. When I have found what I want I would pay the necessary price for him were I obliged to mortgage my farm to obtain the money. (2)

Now we must not deceive ourselves as to the merits of Canadian cattle. The cows of Canadian race are good; on a par at least (all other things being equal) with cows of any other race. But all Canadian cows are not good alike, and he who imagines that, in order to create a good herd, all that is necessary is to buy a Canadian bull, will be most certainly mistaken.

So, although the Jerseys are the best butter-cows, it does not follow that all Jerseys give great quantities of butter. So, although the Holsteins are the greatest milk-givers—some of them yielding 50 quarts of milk a day—it does not follow that every Holstein is a good milker. Far from it. And he who buys a Jersey or a Holstein bull, without discernment, basing his judgment on the reputation of the race for the production of milk and of butter, will find himself deeply in error.

Nothing is more astonishing than the difficulty there is in making people see that the principal point to be attended to in the management of a herd is the choice of the male parent. As long as he can get stock, that is all that many people look for. But we must not forget that "the offspring always resembles the parents;" it inherits their defects as well as their good qualities. Let us, then, be careful in choosing the best.

J. A. COUTURE.

In short, a good bull, one fit to serve milch-cows, is one which descends from the best cows, on both maternal and paternal sides. In proportion to the excellence of its ancestors, OF BOTH SIDES, so will be the value of the bull. (3)

(From the French.)

ED. A. B.

(1) *Taurailles*—heifers I presume, though I can't find the word in the dictionary. However, as *Torello* in Italian, and *Torillo* in Spanish, mean a *young bull*, I fancy my translation is correct.—Trans.

(2) I must be allowed to say that considering the number of male cousins of Canadian cows that are to be had with little trouble, and for small sums; cousins of far purer breeding, and of qualities far superior to the cows; I do not think I would risk wasting my time in running here and there after Canadian bulls, when Jerseys and Guernseys are to be bought for \$30 to \$40 a piece. Again, I do not see why we are to, as the Yankees say, "grade up" our Canadian cows by selection, and our Canadian sheep by crossing with rams from the best known breeds, and our Canadian horses by crossing with Percheron and Norman Stallions. What is good for the goose is good for the gander! Let us be logical or we are nothing. If horses and sheep will improve by crossing with foreign stock more rapidly than by selection—which appears to be granted—so will horned stock; and time, time will be saved.

A. R. J. F.

(3) Just so—and this is the value of the much scoffed at *pedigree*.

A. R. J. F.



## DE OMNIBUS REBUS.

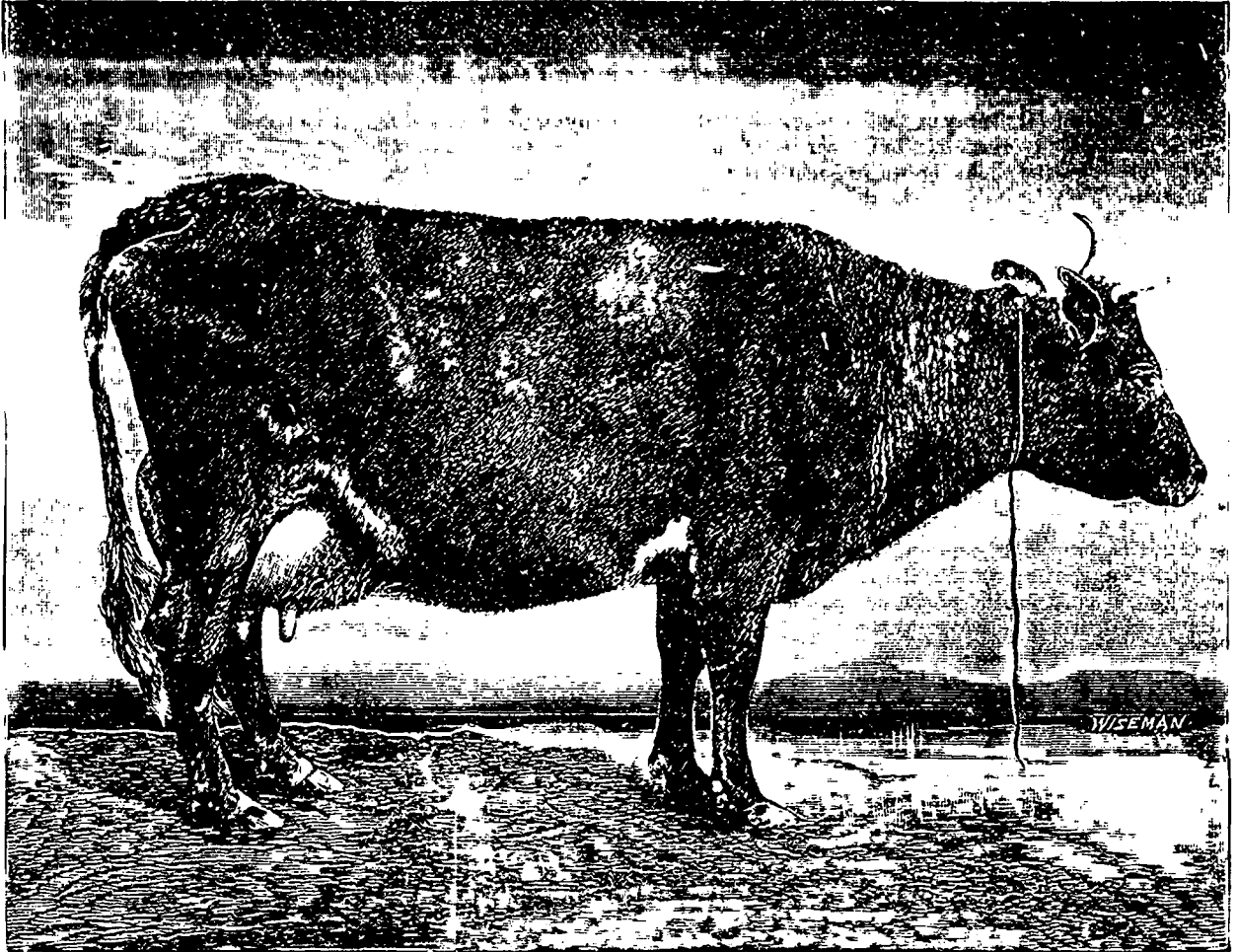
Box 23, Sorel. April 26th.

I hear that the number of boys imported into Canada under the auspices of Dr. Barnardo, whose charitable work I noticed in the last number of the Journal, will exceed, before the end of the season, two thousand four hundred.

Being called in by the respectable M. Proulx, the principal butcher at Sorel, to inspect a cow suffering from swollen udder, I recommended immediate milking, and the applica-

ploughed for wheat in the spring. The crop was almost entirely ruined by the red-weed.

A very fine lot of cabbages was grown by Mr. Gylling on the Fosbroke farm last year. The treatment was peculiar. After ploughing and the usual harrowing, the land was jammed down with an iron roller—twice over—the plants dibbled in by means of an iron crow-bar, and the heads were really splendid! Query—what would have happened to the crop in a dry year? I really don't know, but as I always roll my



LA TAVALÉE.

tion of Goulard's lotion. My advice was not taken, and two days afterwards, the cow, having calved, was slaughtered and the meat disposed of. I was surprised to see in the droppings of the animals tied up to fatten whole peas! Surely a man after 30 years experience, ought to know better than to give soaked peas to his horned stock!

Fall ploughing does not answer, doesn't it? Probably not, if the furrows are laid flat, or nearly flat. Still, anyhow, the harrowing in of seed in the spring will destroy the newly shot weed-seeds; whereas, on a newly ploughed surface, the exposed weeds will not start into life until the harrowing is over, and then they have every chance of overcoming the grain. This was forcibly impressed on my mind, last season when Mr. Sheppard, of the saw-mill on the Richelieu,

land for cabbages, and press the plants firmly, I am inclined to think that this queer-sounding treatment was correct. (1)

From England, I hear that the lambing season has been fruitful, in spite of a long continued frost in March. The wheat-plant, too, is good, and from the last accounts is making wonderful progress. Spring seeding was nearly finished, and the land worked well, as it must have done, seeing that the whole of March was frosty.

My worthy pupil, M. Séraphin Guévremont, went to Montreal on Sunday, April 25th, with 80 bushels of swedes,

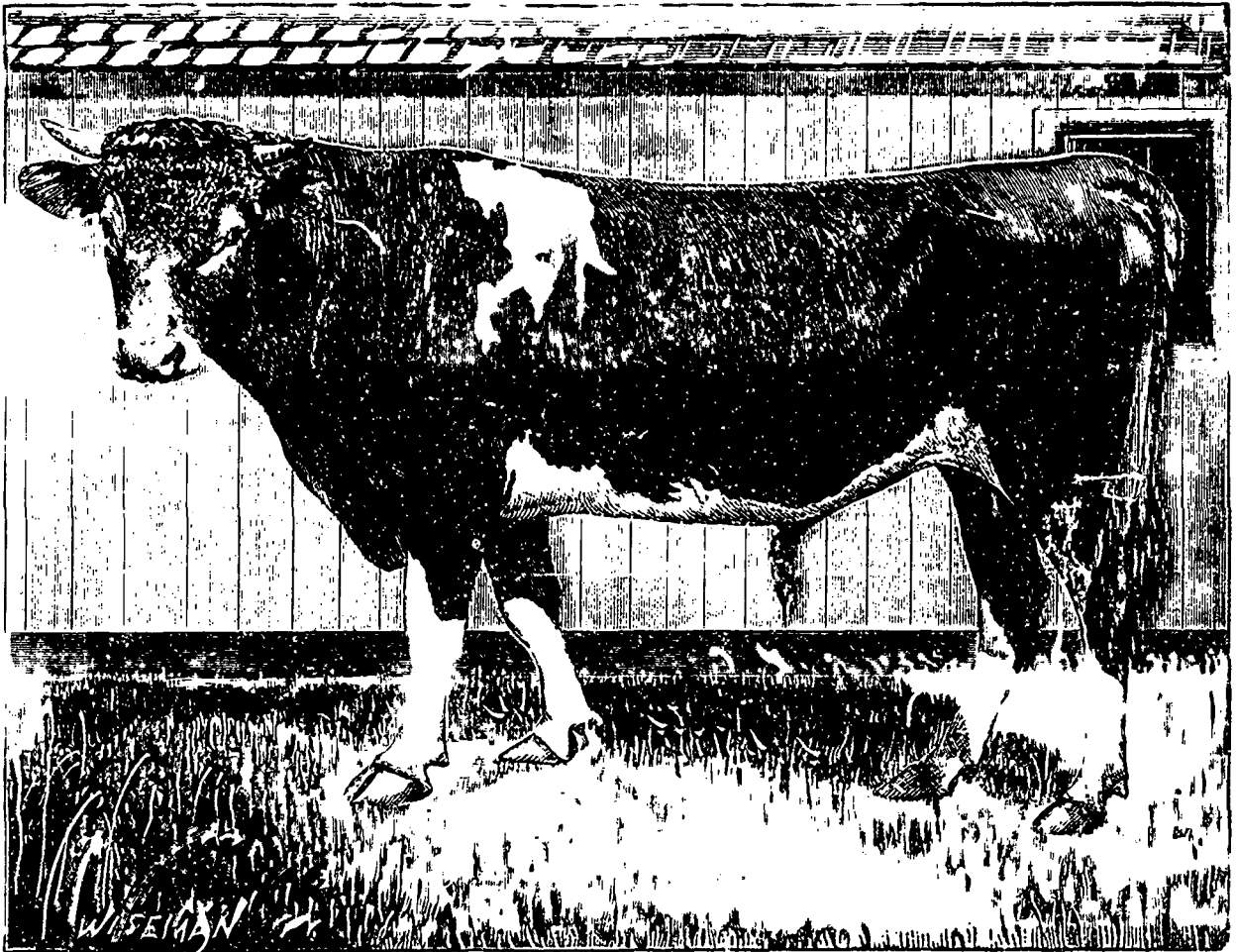
(1) Mr. Gylling tells me that the iron bar was used to save stooping.  
A. R. J. F.

40 bushels of carrots, 15 bushels of parsnips, and 40 bushels of Bassano beetroot! All preserved in a *caveau*—a pit sunk in the sand—They were in perfect condition, not one of them having sent out the smallest sign of a shoot! If the Montreal market-men have never tasted the superior quality of our Sorol-sana vegetables, these product of a tiny farm ought to pay the grower well.

On my journey home from Quebec, I happened to be delayed at Saint Guillaume for 6 hours. Oh, such a dull place—and not a book to be had for love or money! Fortu-

dence;—at all events most of the young ones—and some of the old ones too—do trust in me!

*Apatite.*—It seems that the cost of digging and transporting apatite—rock-phosphate—to Montreal, is about \$10.00 a ton; and it is worth f. o. b. \$18.00. This is the calculation of M. Abalski, the mining engineer employed by the Quebec government. I am inclined to think well of this gentleman (he must agree with you in some of your ideas, then, I think I hear some one say), for at the end of his report he states that “valuable as the apatite is for manure when dissolved in



RUFUS.

nately for me, I met a young devotee—to farming, *bien entendu*—and a very pleasant conversation we had. He was absolutely greedy of information! Such a refreshing thing to meet with here. This M. Adolphe Plante, of La Baie du Febvre, told me that the farmers of his neighbourhood had tried Shorthorn and Ayrshire bulls on their country cows, and that they infinitely preferred the calves got by the former. This was honest; as his own bull was, he said, an Ayrshire.

M. Plante proposes to try two acres of roots this season—Belgian carrots, swedes, and orange-globe-mangels. He has never grown any, so I promised to go down and show him the way to start. There are plenty of young men like this, I don't doubt, if one could only run up against them. I begin to fancy I have a knack of worming myself into their confi-

dence, in a simply ground state it is utterly useless” Which statement I have made somewhere about twenty times in this publication without any body believing me.

And, talking of sulphuric acid, how odd it is that it should be advertised for sale in England at only £1.15 = \$8.50 a ton! Now take a ton of acid, and a ton of “old char,” at \$15.00, and you have two tons of superphosphate costing \$11.75 a ton. And this of the very best quality, containing, if well made, at least 36% of soluble phosphate. Here 26% of soluble sells for \$26—or rather that is the price asked for it: try it in combination with sulphate of ammonia for roots—mangels especially.

2 cwt. superphosphate.....	\$1.14
1 cwt sulphate of ammonia .....	3.00
	4.14

Low enough isn't it, if we could only get the acid at the price?

*Holsteins vs. Jerseys.* - A dispute is going on in the columns of the *Dairyman* between Mr. Duddley Miller and Mr Fuller as to the respective merits of these two breeds of milch-cows. According to my notions, they are equally good in their several lines of utility; the Holsteins for milk, the Jerseys for butter. In the last number of the *Dairyman*, Mr. Miller was indignant at the idea of Jersey butter being compared in quality with Danish, Norman or Friesland butter. "This," says he, "is estimating Jersey butter of equal value, with Dutch, Holstein, or Friesland butter as it is known on the London market, which is far from the case, as will be seen from the following quotations, per cwt., of the London market, given in the *Farmer* of Jan. 25th, 1886 :

1880	1885
Jersey . . . . .	80s. to 110s.
American ....	80s. to 122s.
Friesland.....	120s. to 132s.

Taking the lowest quotations, the Friesland excelled the Jersey butter by 36s. and the highest by 22s. Again, in the *Agricultural Gazette*, of Friday, Feb. 13th, 1886, we find quotations to this effect :

Danish, 1st quality.....	1s. 1d. per lb.
Danish, 2nd quality..	11d. per lb.
Swedish .....	1s.
Kiel.....	1s. 1d.
Ostend .....	1s.
Normandy, 1st quality.....	1s.
Normandy, 2nd quality .....	11d.
Friesland (Holstein) .....	1s. 2d.
Jersey .....	11d.

So far Mr. Dudley Miller. And what does all this go to prove? Simply, that, as every body who has visited the islands knows, the Jersey and Guernsey farmers are the worst butter-makers going. Their butter, as a general rule, is one-fourth cheese and three-fourths butter, and no wonder; they let the milk stand until it is *clabbered* or *lappered*, or whatever else may be the technical name for thick, sour milk, churn the whole together, and the effects are what I have described. I passed three winter months once in Guernsey, and never touched butter after the first morning—ugh! the smell of the buttered-toast at breakfast was as the smell of a Welsh rarebit: a good think at night with *curw dha* (strong ale, and the Welsh ale is strong—as thick as treacle almost), but unendurable in the morning.

And, now, let us see what my friend Mr. Morton has to say on the subject :

"Best fresh butter" is offered at 1s. 8d., "Brittany," and "Fresh," and "Danish" at 1s. 6d., "Dorset" at 1s. 4d., and Jersey at 1s. 2d. What the price paid to the makers for the butter thus offered may have been I do not know—probably 2d. a pound less than the above. But now while they have thus been receiving at most 1s. a pound for Jersey butter, I know of a herd of Jerseys in Lincolnshire, where a separator is used, and where the butter, made up without being once touched by the hand, is both sold close by, and packed off in one pound and seven pound lots to York, Scarborough, and elsewhere, for 1s. 6d. a pound, buyers paying

the carriage. Another herd of Jerseys I know, in Somersetshire, where the butter, made in the same fashion, is sent by parcel post all over the country—even to Alnwick, Northumberland (i. e. from the extreme south to the extreme north of England), and 1s. 6d. is the price, purchaser again paying carriage.

It is excessively unfair to charge the fault of the butter-maker on the poor cows! The best butter I ever tasted was the produce of my own herd of Guernseys, fed on our Kentish pastures: as yellow as a guinea and as fragrant as a wall flower. In the market, it might be well to note, Jersey and Guernsey butter is all sold as "Jersey," much to the disgust of the farmers of the former island, who boast themselves to be possessed of the best cows and the best Chaumontel pears in the world, and are deadly rivals of the Jerseymen.

*Future price of cheese.*—Our English friend are dreading a still lower price for cheese and other dairy produce. There are rumours of farmers accepting 4d. a gallon for their new milk, and separated butter from a well known factory has been offered at 12s. 6d. per dozen pounds. There seems to be sadly too much cheese still in stock of last year's make. I append a list of the stocks in hand at Liverpool—there are still the great ports of London and Bristol to be added to these. Cheese is now at 44s. per cwt. in England; 9½ cts. a lb.

COMPARATIVE STOCKS IN LIVERPOOL. 31ST MARCH, LAST TEN YEARS.

	Cheese. Bxs	Butter. Pkgs.
1886 .....	91,212	4,092
1885 .....	88,208	8,637
1884 .....	79,686	9,536
1883 .....	59,040	12,790
1882 .....	91,275	8,005
1881 .....	91,459	30,050
1880 .....	53,124	4,964
1879 .....	140,116	18,924
1878 .....	34,727	20,378
1877 .....	50,238	17,911

COMPARATIVE HIGHEST PRICES PER CWT., 31ST MARCH, FOR LAST TEN YEARS

	Cheese.	Butter.
1886.....	53s	105s
1885 .....	57	105
1884.....	71	110
1883 .....	71	105
1882... ..	65	95 2nd Qual.
1881 .....	70	105
1880.....	72	140
1879... ..	44	90
1878 .....	66	115
1877 .....	73	120

What makes onion seed so dear here? Compare the prices as given below :

MONTREAL.

Early Flat red Wethersfield .....	p. lb. \$2.40
Early red globe.....	" 2.40
Large red Wethersfield.....	" 1.75
Large white American .....	" 4.00
Yellow Danvers.....	" 2.00
An average of \$2.51 per pound.	

## ENGLISH.

"*Onion seed, onion seed.*—Special offer at reduced prices—**F. GEE** is prepared to supply the above genuine new Bedfordshire-grown Seed (best growth for the season) as follows, for cash with orders. Free by parcel post or rail, with packing.

Selected White Spanish Onion..... 2s. 0d. per lb.

" Bedfordshire Champion,  
very fine stock..... 2s. 3d. "

In not less than 1 lb. lots. Smaller quantities higher rates."

An average price of 50 cents a pound—only one-fifth of the cost here!!!

*Seeding grass lands.*—Every body in England knows "Smith of Woolston," one of the pioneers of steam-ploughing. A cantankerous, abusive creature, whose hand is against every man, and with a budget of Billingsgate terms ready to hurl at any one who contradicts him. However, as far as farming goes, he has the root of the matter in him, and, in the few points in which he and I agree, I must acknowledge him to be a man of singular perspicacity! And here is one of the points:

"I must have a word about seeding of land down to grass. Our prodigality knowing ones, will have it that the laying of land down to grass needs a costly process of cleaning and seeding with cracked-up seeds. I have examined a lot of land that has been seeded down thus costly, but in no one instance do I find their grand costly seeds to stand. They die out, and the natural grasses come in. My own 100 acres of clay land that run down takes the shine out of the costly practice of seeding down, for it is now overrun with natural clover and other fine grasses. I did not have any of their pickpocket stuff, but I dress my land frequently with corn-made manure. That is the way to fetch land about."

And herein Mr. Smith and I differ entirely from Professor Brown of Guelph: which of us is right time, will show.

*Mixed seeds for Lawns, etc.*—Here we are again—four or five dollars an acre ought to suffice, but one well known seedman recommends 40 lbs. to be sown with a mixture of seeds costing 30 cents a pound=\$12.00! And this not for the acre=4840 square yards, but for the Canadian arpent, which is said in the list from which I quote to contain 3600 square yards, as indeed it does only the yards are 3 *French* feet each, and the arpent really contains 4095 square yards English measure, and thus, as 13 arpents=11 acres, we have the cost of laying down lawns, tennis grounds, &c., equal to \$14.00 an acre—which is absurd.

Now, Dr. Bea' of the Michigan Agricultural College, has carefully examined these lawn-mixtures, having got samples from several of the leading seedmen of the country. He finds most of them to consist largely of Blue-grass and Red top, with smaller quantities of White-clover, Sweet vernal grass, Perennial Rye-grass, Orchard grass, Timothy, Sheep's fescue, Meadow Foxtail, &c.; with traces of Chess, Plaintain, Velvet grass, &c.

June or Blue-grass is worth \$2.00 per bushel at retail, and Red-top \$1.00, and these two, with perhaps 3 pounds of white clover, will be quite sufficient for an acre of land. Great grasses, like Timothy, Rye-grass, Orchard grass, and Red-clover, had better be left out. Mow and roll, mow and roll; that is the way to get a real lawn. What was the reply of the Fellow of Trinity College, Cambridge, to the lady who asked him how they managed to have such beautiful grass-plats? "You have only," said he, to mow and roll them three times a week for three or four hundred years, and the turf will be as you see it."

Mr. Henry Stewart, I am happy to see, shares my opinion on the results derived from mixed food. We both find effects from this mode of feeding which are at variance with the theory of analytical values.

"The results derived from the use of mixed foods are relative and reflex; that is, one acts upon another and so produces better effects than either alone. The use of beets or mangels in the winter, with hay and mixed corn-meal and bran, increases the effect of the latter upon the milk product, and thus every dairyman should test mixtures of food to learn by experience the gain that may be made. No precise law can be laid down, because animals differ very considerably; but it is a fact that mangels or sugar-beets, or even apples in the season, fed with the meal, increase the product of butter by adding to the quantity of the milk. This is the most important thing to know, as a food that is apparently deficient in fat, and supposed to have no direct influence upon the produce of butter, may yet, by increasing the flow of milk, actually stimulate the secretion of fat and so produce more butter than the food given with it would have done without it. This is one of the surprising reflex results of mixed foods, *which are ascertained only by direct experiments*, and cannot be predicated by a mere knowledge of chemical analyses of food substances. A great number of experiments made for some years past have, however, made this very clear, and hence the use of mangels or sugar beets have been found exceedingly valuable and profitable. One peck per day, fed at noon, cut fine and mixed with two quarts of mixed feed, as finely ground corn meal and coarse middlings, is a proper ration, and in the apple season the same quantity of ripe apples (no other kind will do) is equally useful. It will undoubtedly pay. Another fact might be noted in this connection, which is pertinent, viz., that the cutting of hay or fodder, wetting it and mixing the meal with it, has always been found to add to the product of milk and butter both; the reason in both cases being that the prepared or mixed food is better eaten, and being more palatable, is more thoroughly salivated and is consequently better digested; the salivary fluid having quite active solvent and digestive properties."

I beg to call the attention of my correspondent "Quebec" to the above.

*Milking cows by machinery.*—Once more, an instrument comes before us for performing by mechanical means what is now done—and too often very badly done—by hand. M. Reuben D. Rath, of Mummasburg, Pennsylvania, has introduced an apparatus which, according to his statement, even unskilled persons are able to use. It is described as a hollow spud, through the broad end of which pass two india-rubber clamping plates, or jaws, of a semi-circular form, whilst the handle serves as a receptacle for a spring connected with the clamps. When the milker is to be used, the cow's teat is inserted in the jaws, and worked by alternate pulling and releasing the spring, the surfaces of the jaws pressing up the teat with an elastic and springing motion, which is intended to be an imitation of the pressure excited by hand-milking, and which, it is said, will not distress the animal. At all events a mechanical milker is greatly needed nowadays, as good hand-milkers are very scarce, and an evil-disposed man or woman, after a quarrel with the master, could easily ruin a dairy of cows by neglecting to the empty their udders for a week or two. By the by, after all said and done about these instruments, the stripping would have to be done by hand.

*Oats.*—Mr. Stewart reminds us that we do not sow oats early enough—*connu*—the land, he says, should be ploughed

in the fall, and prepared as if the seed was then to be sown — which latter clause is absurd, if Mr. Stewart means that the autumn furrow should be disturbed. Then," continues he, "in the spring, sow directly upon this soil as soon as the upper four inches are free from frost and dry, and use the harrows across the furrows to cover the seed."

Oats, as every one knows, or ought to know, need the longest possible growing season; they love cool weather, and moist, well drained land. And it is on account of this proclivity that, whereas the potato-oat grown in Scotland weighs, on an average, 43 lbs., grown in England it rarely exceeds 38 lbs. The Mr. Henry Stewart, whom I quoted above, must by no means be confounded with Mr. Elliott W. Stewart, author of "Feeding Animals."

A mellow seed-bed and sow early is the main point, I put all my grain in thus:

Wheat sown on autumn furrow, and grubbed in across ridges; harrowing till enough.

Barley and oats, furrows grubbed across; seed sown and grubbed in across the former grubbing, harrowing till enough.

Barley wants just as much harrowing as you can manage to give it; oats will do with less than barley; and wheat requires least of all grain.

*Celery seed.*—Always a trouble to grow. It should be sown in rich, mellow soil, and not covered, but merely pressed into the soil with the foot. Water with a very fine rose until up.

*Mr. Bowker on artificial manure.*—This gentleman, be it remembered, is a dealer in as well as a manufacturer of artificial manures; so, I fear his evidence as to the utility of fine-ground phosphatic minerals must be taken with an allowance. The "leading experimenters" have not by any means come to consider that "it is far wiser to dissolve it than to apply it in the raw state." What we all say is this: If you depend upon artificials alone for your root-crop, use, say, 2 cwt. of dissolved phosphate of lime to start the plant, and with it mix 2 cwt. of fine-ground Carolina-rock, coprolite, or other non-crystalline form of phosphate to support the plant in its maturing state.

Mr. Curtis is perfectly right in his idea that the greatest usefulness of artificials is when they are employed to aid barn-manure. Where I come from, the smallest farmer never dreamed of sowing roots without a mixture of dung and superphosphate. In this case, as the artificial is used expressly to help the plant in its youthful state, the mineral should be invariably dissolved in sulphuric acid.

Mr. Bowker's analogy between the calf and our cultivated plants will not bear inspection: nobody would dream of dressing fall-wheat with artificials until the arrival of spring; so, if that crop is invariably stunted, not only for 30 or 60 days, but from September to April—say 210 days—and survives the neglect, Mr. Bowker's argument is out from under him. Analogy is one of the most dangerous of weapons in discussions.

"Mr. Bowker, in another part of his address, said that there is no farmer to-day who will not admit that in raising a calf, if it is stunted for the first six weeks of its existence, it is stunted for life; so if a crop is stunted for the first 30 or 60 days, it is stunted for the rest of its growth. That being the case, it seems to him we should have plant-food in the most favorable condition, so that if the weather shall be right the crop will make the best possible growth during the first few weeks. This should be one reason in favor of commercial fertilisers....."

SPEAKING of S. C. rock, he said that it is urged by many that if we applied South Carolina rock, in a fine ground condi-

tion, directly to the soil, and it will give good results; but he thinks that after a long trial the leading experimenters have come to consider that it is far wiser to dissolve it, especially for hoed crops, than to apply it in its raw state, for nearly all hoed crops make the greater part of their growth in 60 days, and plant food, to be of any value to these crops during this period, must be in a condition ready for them to absorb.....

Mr. CURTIS (Glidden & Curtis) said that he had the idea that the greatest usefulness of commercial fertilisers was when employed in connection with barn-yard manure. Where barn-yard manure is applied, it is necessary to cultivate the soil thoroughly. It is so done, and the soil is very carefully pulverised. It is natural to suppose that if a chemical fertilizer is used after that careful cultivation of the soil, it will have a great deal more effect, and a quicker effect, than if it is put upon soil that is not so carefully cultivated".....

Ex.

"An old Sussex (Eng.) farmer affirms that the season of seeding wheat is a month or six weeks later than it was fifty years ago." And he is quite right. One of my earliest recollections brings back to me a first of September, when I was trotting alongside of my eldest brother out partridge-shooting, and the farmers were sowing their wheat—broadcast—on every side. This must have been at least fifty four years ago. When I left England, in 1858, no one sowed until about the 10th October, except on the Cotswold Hills in Gloucestershire, and the High Peak, Derbyshire, where the unharvested wheat might, and still, I believe may, be seen standing alongside of the newly sown grain. Both these districts are bleak, backward spots.

#### HOP MARKET.

The hop market continues to be in quite a demoralized condition, and prices are really settled by just what can be obtained for the offerings. If a brewer wants to buy a lot of good hops he would probably have to pay about 8c; whereas if a grower wanted to sell his hops, he might get anything he could, from 4c and upwards. The market is suffering severely from over-production, and stocks are still equal to more than a whole year's consumption. It is likely that a consideration acreage of hop gardens will be ploughed up this year and turned to other crops, as any price below 10c is said to leave the grower with a loss. It is reported that some growers are endeavoring to contract for the sale of their next year's crop on a basis of 10c, so as to avoid all speculation in growing and to make sure of getting back their own cost.

Hops at 10 cents a pound are a losing business. At fifteen cents, a living profit may be made, but not too much considering what a speculation the whole thing is. I remarked in this publication some three years ago: "I have, I regret to say, been asked for information as to the cultivation of hops by many people"; v. Journal of Agriculture, vol 4, p. 163—I still hold that, except when the soil is peculiarly adapted to the plant, the capital large, the supply of purchasable manure infinite, and labour cheap and abundant, to plant hops means ruin to the farmer. Well, I wrote four or five longish articles on the subject, but I trust—in fact, I know—few new plantations were made. In 1883, hops of fair quality brought the grower 50 cents a pound. An enticing price, I admit, but look at the present price!

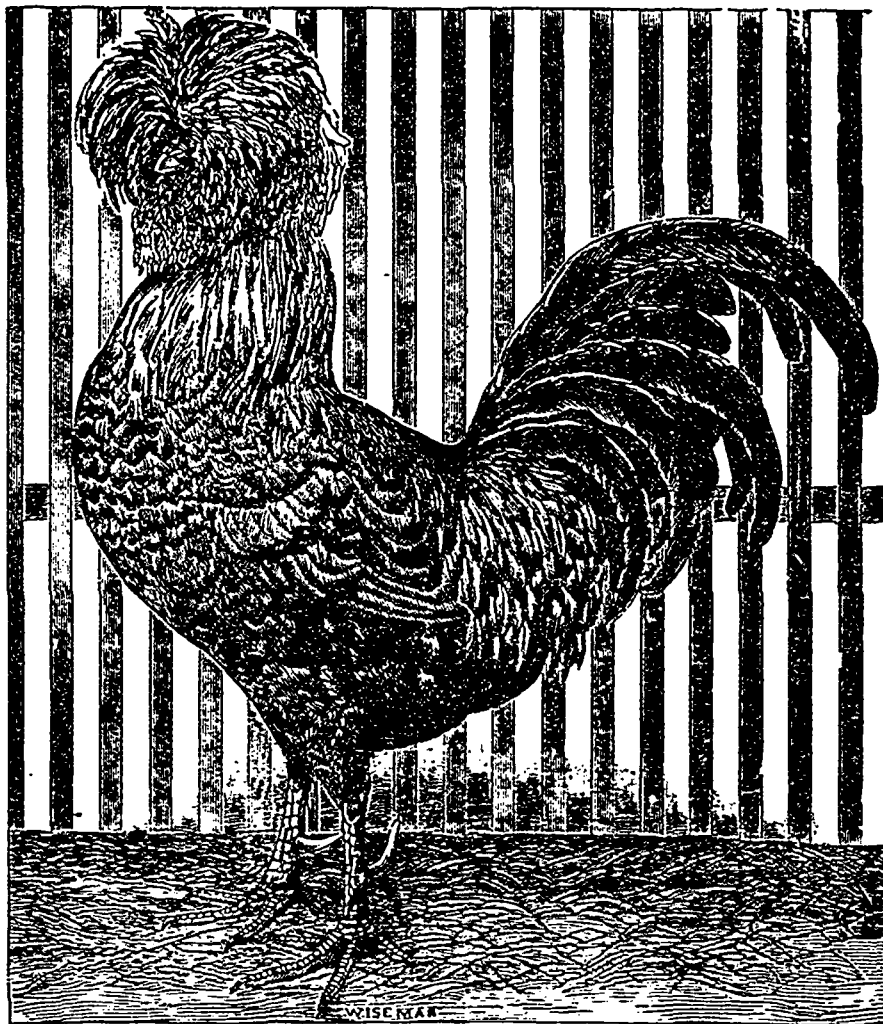
Mr. Howard's essay on hay making, p. 95 is correct in every point except in that awful heresy of a chimney! All the best hay in England is made within a radius of 30 miles or so from London, and I should like to see any rash

externe hint at a chimney in a hay-stack to any farmer at Hendon, Uxbridge, Chislehurst, or Bromley! Its effect is to draw all the heat towards itself, and deprive the rest of the stack of its fair proportion. No, a Middlesex, Surrey, or Kent farmer, will put you up a stack of a hundred and twenty tons in perfect order, which will out out as green as the original grass, with a perfume like clove-pinks, and so closely pressed by heat and moisture, that a *truss* of 50 pounds looks, until you handle it, like a mere nothing. The steam arising from one of these stacks three or four days after its completion would frighten a stranger to death!

now it has advanced to 140 dollars = \$3,080,000! So all our eggs are not in one basket, as I was beginning to fear would soon be the case. Horses, and beef, and mutton, are worth growing as well as cheese. The above figures are taken from the *Vermont Guardian*, of which paper Dr Hoskins is agricultural editor.

OUR ENGRAVINGS.

*La Tavelée*.—A Canadian cow, about as good in every way as they make them. When her portrait was taken, under my supervision, she had been milked *dry* the previous



SPANGLED POLISH COCK.

I hear of a machine, invented by a boy of 17, for raking and *cocking* hay at the same operation. A most desirable conjunction of two most important pieces of work, but somehow or other I distrust all *combined machines*. I would rather use a simple seed-drill, and harrow and roll afterwards with separate implements, than use that wonderful piece of machinery I once saw at the Montreal Exhibition: *drill, harrow and roller*, all in one!

*Exportation of horses*.—Would any one believe that the exportation of horses has grown to such an importance that we annually send across the border 22,000? Formerly, the average price paid was about 95 dollars a head, but

evening. Her udder is perfect, all her points are yellow, and the inside of her ears a deep orange. With the refuse hay of the horse-racks, and a couple of mashes a day, *La Tavelée* gives 16 quarts of very rich milk.

I must not forget to compliment M Desjardins, the photographer, on these most successful attempts at animal portraiture. The cow and the Guernsey bull Rufus, on opposite pages of this number, are as perfect likenesses as can be imagined.

*Rufus*.—Guernsey bull, bred by Hon. J. J. Abbott. No. 925.—Sire.—*Presto of Preel*, 571, imported. Dam.—*Rougette*, 2<sup>nd</sup> of St-Andrews, 896, imported. Dropped.—23<sup>rd</sup> March, 1884.

Presto of Préal was by far the finest Guernsey bull I ever saw, and if Rufus had been fed a little better during his second summer he would have not lagged behind.

*Spangled Polish Cock.*—First prize at Crystal Palace show, 1885.

#### CORRESPONDENCE.

Will you let me know thro' your Question and Answer Department :

1. How green caterpillars can be kept off cabbages and cauliflowers ?

2. How worms can be kept from onions ?

3. If stable manure alone, or mixed with some special fertiliser, is best for the following : cabbage, cauliflower, celery, lettuce, onion, radish, cucumber, beans and squash ?

M. A subscriber since 1879.

I wish M. would in future send his inquiries in a letter. A post-card is easily mislaid. The questions came too late to be answered last month, as I have to get all the matter into the printer's hands a month before date of publication.

*Answers.*—1. Plenty of manure and thorough cultivation will beat the green caterpillars. Plant cabbages, etc., as far from the road as possible: the butterfly which produces the eggs from which are hatched the caterpillars always frequents the roads. M. might try coal-oil dissolved in soap-suds—very weak.

2. Pressure with heavy rollers is the only way to save onions from the attacks of worms. The Bedfordshire (Eng.) onion-growers use Croskill's clod-crusher, a ring-roller weighing from a ton to 24 cwt., with the periphery of the rings dentated or vandyked.

3. Stable manure in quantities of not less than fifty tons an acre is the best application for all the garden crops mentioned. For cabbages, which are awful eaters, half-dung and 3 cwt. of sulphate of ammonia would do; but, as a general rule, nothing will take the place of *dung* for market-garden crops. Its mechanical effects in hastening growth by changing the colour of the soil, and thereby retaining the heat of the sun, and by increasing the permeability of the land to the roots of plants, are of immense value. Onions will profit by a dressing of wood-ashes, raked in before sowing. Fine raw bone-meal is good for all crops.

ARTHUR R. JENNER FUST.

#### FATTING LAMBS

##### HOW OFTEN SHALL WE FEED ?

It is claimed by some that twice a day is sufficiently often to feed; that by feeding the hay and grain near together, and these feeds as nearly 12 hours apart as possible, the lamb has ample time to re-chew its food and the stomach time to rest before the next meal, and that the lambs will both gain faster and make a larger gain for the food consumed. This is a fallacy that works to the injury of every one who may follow it. Ruminating animals are seldom without food in some of the compartments of their stomachs, unless fed on starvation diet, which no one would recommend, at least for fattening animals, and no matter how often fed the food, as a rule, does not pass into the fourth or digesting stomach until after it is chewed the second time. And if the lamb is fed, as it should be, at least seven times, it will not spend over seven or eight hours in eating, leaving at least 16 hours for rumination and rest of the stomach, which is ample. And as the interval between the evening and the morning feeds must necessarily be not less than 10 or more hours, the first feeding should be not later than six o'clock (five would be better), and the shepherd will be very sure to find the lambs alert and showing by their

greediness that they have had ample rest and are ready for a good, "square meal." We prefer hay for the first feed, so that it may be quickly eaten, the stomach quickly filled and the coarser food ready to mix with the grain ration and returned with it for remastication. If the hay is good and only a proper amount be given, it will be eaten in one hour, and the sheep will be ready for their grain. After this is given, the water troughs should be looked after and replenished, if empty, and the lambs then left in quiet until half-past nine at which time roots should be fed; these should have been made very free from dirt and cut fine, but cut into irregular pieces or cubes in preference to pulping or being cut into slices. We use a cutter with circular knives, which in cutting the roots break them into pieces the size of hickory nuts.

At noon the racks should be filled with good, bright straw. If grained as high as is advisable, they will eat a large proportion of this; especially is this true if the straw has been barn-housed, for no matter how bright it may be or how well kept in the stack, they will not fail to detect the difference, and will show their preference, by the larger consumption of that barn-kept. The troughs should now be looked over and refilled with water, and the lambs be left undisturbed until (where roots are fed, as they should be, twice daily,) three o'clock when the second feed should be given. At five P. M. the racks and grain trough should be swept out, and the second grain ration given, and at six the racks should be filled with hay, or, if desirable to feed corn fodder, that should be given at this time.

If the second feeding of roots be omitted, which we do not by any means advise, the afternoon grain-feed may be given at half past four, and followed with hay or other forage at half past five.

Thus it will be seen that we have marked out seven distinct feeds each day, and have provided for keeping the shepherd busy and "at his post." That lambs will eat more when fed often we have not the least doubt, but that they will make a gain corresponding to what they eat, and more, too, we have proven by careful experiments more than once, and this course will, by the more rapid gain of the lambs, more amply repay the shepherd whose heart is in the work, and who begrudges no labor if he can see lambs "doing their best."

Rural New Yorker.

Our friend J. F. Kenelig, of Cumberland Co., Pa., wishes to know why sheep lose their wool, it commencing to loosen around their necks and along their bellies? There is only one cause of this. The sheep at some time have been losing flesh and they are now gaining. The great difficulty with most sheep-keepers is in allowing the sheep to run too long at pasture without grain. After a severe freeze the grass has but very little substance, and although the sheep may fill themselves so as to look full, they are rapidly falling away, and when put into winter-quarters and well kept, they begin to thrive and this starts the wool more or less. There is no remedy only to grain a little while they are at pasture, or put them into the barns sooner. (1)

Rural New Yorker.

#### FEED FOR WORK HORSES.

Twelve quarts of oats a day is as much as any horse needs or can digest well for work on a farm. With this the horse wants only half the hay usually fed. He will do better and do more work on a small amount of hay than when given all he will eat. Cut food with meal is the most economical, and horses will do the hardest work on this food and keep in better condition than on oats. Grain is much cheaper in this section than hay, and if plenty of bran be mixed with the

(1) Too much confinement will do it. Sheep should always have a chance of out-door exercise.

A. R. J. F.

grain very little hay need be fed. Horses will do well on oats and bran, or on clear oats. I have a horse which has been doctored for the heaves, which has lived all Winter on 12 quarts of oats. He looks well and feels fine. My father once worked a "heavy" horse a whole Spring on nothing but oats soaked in water and he gained all the time. When fed hay, he could hardly walk, the disease was so bad. *Ex.*

#### HINTS ON FEEDING

I have found out that there is no money in trying to fatten old cows or sheep, or in attempting to winter them unless they are specially valuable for breeding. I fed an old cow, and did not get half pay for the meal and oats she ate. I have wintered some old sheep to get one more lamb, and they have been fed to keep them in as good condition as possible. I found the barn was too cold, and moved them to the pig-house which is much warmer, and here they improved. I doubt if they would have stood the cold. Two of them now have lambs, and when these were born they were fat and strong. It was oats, wheat bran and roots which made them so. The mothers had plenty of milk and no cake in the udders. If they had been fed corn enough to have kept them up, and to have developed such udders, they would have been feverish, and the udders would have been swollen and sore. Two years ago I was taught a valuable lesson in regard to feeding corn plentifully to ewes which were going to have lambs. It won't do. In some cases the milk would not start at all, and in others the lambs died because, although the ewes owned them all right, which deceived me, they would not let them suck, as their udders were so sore. In many cases the ewes had to be held whenever they got any milk, and it was some days before they would stand for them.

#### EXPERIENCE WITH GUERNSEYS

**EDS. COUNTRY GENTLEMAN**—I can hardly tell you how much I like them. I have been using grade Guernseys, half and three-fourths blooded ones, for several years, originating from high grade Short-Horn cows, mainly good milkers. For butter-making, I choose thoroughbred Guernsey bulls for building up a herd of dairy cows, preferring them over the Jersey for their superior size, carrying more flesh, yielding milk of equally rich quality, and more comely looks. Taking good shapes from the Short-Horn grade dams, they avoid the depressed backs of the Jersey—for I love a straight back in a cow—and in my own opinion, are hardier in constitution, although in this latter quality, I wish to do no injustice to the smaller islanders.

As a rule, my Guernseys are uniformly good milkers. Their udders are square, well set "fore and aft," with well-sized teats, easy to grasp by the hand, and giving their milk freely. As to the *quantity* in weight of either milk or butter they yield, I have never *tested* them by forcing into them more expense of food for a week's or two weeks' trial than the butter they make would be worth, considering all such processes as too hazardous to their health and lives.

They are remarkably kind and gentle in temper, loving even, in disposition, and frequently, as I drive with horse and buggy into the pastures in summer, they surround me—the young heifers—almost climbing into the wagon, or, if getting out to fondle them, licking my hand or grasping my coat tails, in their affectionate fondness. Not one of them has proved a kicker in milking, or shown a single vice in management, being always treated with kindness. No milk-stool or switch-flogging, even on a fractious cow of any breed, has ever been permitted in my herds, and with these Guernseys a deserving instance of the kind has not been developed.

They yield their milk continuously from dropping their

calves until nearly the time of the next coming calf, and in some instances would continue without cessation, having to force a drying off for four or six weeks, which always should be done for a rest to both the cow herself and the good condition of her off-spring. Their percentage of cream to milk is quite equal to that of the Jersey, as I have compared them, as is the quality of their butter. They are quite to my satisfaction as butter-makers. L. F. ALLEN. *Buffalo, N. Y.*

#### FARMERS' CLUBS.

LONDON.

NOTES ON MAYMAKING, BY JAS. HOWARD.

ON THE TIME FOR CUTTING.

With respect to permanent grasses, observation has led me to the conclusion that cutting is very generally too long deferred. The component portions of grass most fitted for nutrition are those soluble in water; the great object, therefore, should be to cut the crop at the period when it contains the greatest amount of gluten, sugar, and other matter soluble in water. If left too long, woody fibre is produced, which is insoluble in water and unfitted for assimilation by the stomach. On the other hand, it is wrong to cut too early; the principal constituent of young grasses is water; as the growth advances, carbon is developed, and the saccharine juices are, as a rule, in the greatest abundance when the grasses are in full flower, just before the seed is formed. The last statement is qualified, because I am aware that some of our natural grasses, such as cock's-foot, cat's-tail (Timothy), and others contain a higher proportional value when the seed is approaching ripeness than at the time of flowering; nevertheless, it would be impolitic to wait until the seeds of these grasses have attained to the stage of ripeness, inasmuch as the majority of the grasses when in the flowering stage contain the largest amount of nutrition, and will yield a greater weight of produce.

My own practice is, as soon as I perceive the sorrel begin to ripen, to make preparation for cutting, for, apart from the teachings of chemistry, experience and observation have convinced me of the advantages of early cutting. That a gain ensues from the practice in respect of lattermath is obvious.

If the cutting of a crop be too long delayed the plants become withered at the bottom of their stems, the roots being thereby injured, the future growth weakened, the lattermath lessened in quantity and deteriorated in quality; whilst the ripening of the seeds draws largely upon the resources of the soil, the fact should never be lost sight of that the greatest draft upon the land is not in growing the blades or stalks, but in the maturing of the seeds. I therefore contend that in order to avoid loss, both in quality and quantity, pastures should be cut when the grasses are in flower, and that of two evils, cutting too soon and cutting too late, the latter is the greater.

I have not gone into the question of cost of cutting, nor into the advantages of the modern mowing machine over the rustic scythe, further than to observe that the form in which a machine leaves a swath is incomparably superior to that left by the scythe, and the extra bulk of hay obtained through the closer and more level cut effected by a well-made machine, in good order, is considerable.

#### TREATMENT BETWEEN CUTTING AND CARRYING.

Assuming that the crop is a good one, and is being cut with a machine, and the weather favourable, as soon as a few acres are down the tedding machine may be put to work to scatter the swaths. If the forward action of the machine is to be used for spreading, the greener the grass the better, inasmuch as less loss of leaf and seed takes place in the green



stage than when partially made. Again, if the weather is favourable, time is lost by the delay. (1)

After the first tedding there is no reason why the machine, set in the back action, should not be put to work to turn the crop at once, with a view to hasten the process of making.

Incalculable damage has been done to our hay crops by the injudicious use of the forward-action of hay making machines, and this under the erroneous impression that, when in the back-action, the machine does not do enough to it. As every practical man knows, grass may be knocked about a great deal too much and this applies with double force to crops half-made, also to clover, which may be cut with a machine, *but should never be teded or turned except by hand.*

In a series of experiments I made many years ago I discovered that the barrels with the slowest speed for the back-action made the best work, the crop being left loose, and more hollow.

In windy weather it is desirable to arrange for working the haymaker, when used in the forward action, sidewise to the wind, this may often be done by working obliquely across the swaths, it is, however, desirable to avoid using the forward action when the wind is troublesome, inasmuch as the crop become very unevenly spread.

As the employment of hand labour is to be avoided as far as possible, the old-fashioned plan of drawing the crop into hacks with wooden rakes has long been abandoned by the *more skilful, and the horse rake adopted for drawing the crop into windrows.* Again, as soon as the crop is beginning to emerge from the grass condition into that of hay, instead of hand-labour being employed to put it into cocks, the horse-rake is run up the rows for the purpose of drawing the crop into heaps, which with the aid of a hand fork are readily shaped into cocks.

My own practice is to use a horse rake of the greatest capacity for this purpose, and for this reason. If a horse-rake with tines of small capacity is used the hay is compressed to a very undesirable extent. From long observation, I am satisfied that the most useful and efficient horse rake for most purposes upon a farm, and especially for drawing grass into heaps for cocking, is one with very capacious tines. When horse rakes were emptied of their load by hand, weight and size of tine were an important consideration, but now that the power of the horse instead of the man is employed for relieving them of their load, there is not the same reason for restricting the size of the tines.

The object of a good manager will be to get his hay into cocks as speedily as possible, especially upon the appearance of a storm—he should therefore be provided not only with the right kind of implements for the purpose, but with a sufficient number. Upon this point I will not dwell, further than to observe that I have known many a crop ruined, not only from an insufficient number of hands being employed, but from dependence upon a single implement when two, at least, were necessary or desirable.

I have had no experience of the system of big cocks so general in the North of England and other portions of the kingdom. In a damp climate, or in cases where the hay has to be carted a long distance to the homestead, these big cocks may be desirable, but for similar districts to my own, or where expedition is the order of the day, I fail to see any advantage in the method. (2)

#### CARRYING.

What are the indications of fitness of the crop for carrying is a critical question, and one impossible to express fully upon paper, experience alone must ever remain the chief guide upon so practical a matter. Of course, the smell and the feel are the chief indications of fitness or infitness—some test the

(1) This refers to meadow hay. Clover is never teded. A. R. J. F.

(2) I have had experience in big cocks! The best way to spoil hay.

A. R. J. F.

fitness by twisting bunches in the hand, and in the case of clover, if it breaks readily upon being twisted, it is regarded as a sign of fitness. If upon being squeezed, juice exudes from the stems of clover, it is an indication of unfitness.

In the clearing of the ground, and in loading, much economy of labour may be effected, for instance, in the case of three full sets loading together with a pair of pitchers and one loader to each cart or wagon, nine rakers to follow, if hand labour has to be resorted to, would be required to keep the work well up, whereas if the horse-rake is employed, first to clear the space between the rows, and subsequently to follow the carts and wagons, the nine rakers are dispensed with, and their services available for the stacking or other work. The loading will also go on more expeditiously as the pitchers will not have to wait for the rakers to unburden their drags.

#### STACKING.

With regard to the ricks, the first point for consideration is the foundation. a good one may be formed with road scrapings or burnt clay, and as a foundation of this kind will last for very many years, it is an economical method to adopt in rick-yards or wherever hay is stacked year after year.

The size of the stacks will of course, be regulated in great measure by the size of the holding. When the acreage is large, ricks twelve yards long, six yards wide, and four and a-half or five yards high to the eaves when settled down is a convenient size—they are *more economically put up and finished*, a larger proportion of good quality is ensured, and less waste from tops, bottoms, and outsides is entailed, than is the case with a larger number of small stacks.

In order to carry up the walls of the stacks as high as I advocate, the use of an elevator or a portable pitching stage is necessary. The relative cost of thatching is, of course, lower with high stacks than with low ones, and with a pitching stage or an elevator the extra cost of stacking is trifling.

I prefer leaving a central flue or chimney in the stack, for if it does not happen to be required little or no harm is done. Care should be taken to keep the flue straight, for if not perpendicular the stack in setting will close the flue.

Of the two evils, carrying too soon and carrying too late, I think the former the lesser one, inasmuch as, with the aid of an elevator, a stack which may get too warm may very readily be transferred from one side of the rickyard to the other, and thus cooled down.

In the harvesting of marsh-hay, and crops not thoroughly made, it is alleged that they may be stacked with safety by placing layers of clean dry straw at intervals. The advocates of the plan maintain that the straw absorbs the redundant moisture, injurious heating is prevented, and a flavour is imported to the straw which renders it palatable to cattle. The proportions are one load of straw to three or four loads of hay. I have never tried the plan myself, but I have heard it well spoken of by those who have adopted it.

In stacking hay that has been damaged by exposure, it is not an uncommon practice to strew salt upon it as the building of the stack proceeds, the object being to render the hay more palatable, as well as to check undue fermentation when, from the condition of the crop, such may be expected to set in.

Mr. Howard concluded with references to Dutch barns, and the fan system of drying ricks and ensilage, which we may reproduce hereafter. *Ag. Gazette—England.*

#### NON-OFFICIAL PART.

##### A MOST LIBERAL OFFER:

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