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Omniun rerum, ex quibus aliquid adquiretur, nihil est agriculturâ melius, nihil uberius, nihil homine libero dignius.—Cicero: de Officiis, lib. I, cap. 42.

VOL. IV.

HALIFAX, N. S., MAY, 1882.

No. 23.

THE tenness of the present season is unexampled, so far as we know the history of the Province. Last week we had an opportunity of seeing the fields throughout a large portion of Nova Scotia, New Brunswick and Quebec Provinces, and of seeing persons from Newfoundland to Manitoba, and, whilst at Emerson the wheat was all sown nearly five weeks ago, it is now also pretty well in throughout the warmer parts of Nova Scotia. But in Cape Breton Island the wet state of the soil from the dissolving snows prevented any field work being done, and the eastern and northern parts of the Nova Scotia Peninsula, Gaysborough, East Halifax, Antigonish, Pictou, Cumberland, are, we fear, all in a backward state as regards spring work. In such a season the prudent farmer will not stand too much upon the order of his rotation, but will put in such crops as are practicable. There is one crop, however, which we think well worthy of his most painstaking energy to secure, and that is the potato. For the last ten years, ever since the potato bug discouraged potato culture in the west, we have urged our farmers to devote increased attention to this crop, on the ground that our climate may be depended upon to protect our potatoes against the bug. We have seen, last season, a large importation of potatoes from Europe into the United States. If a sufficient amount of capital were thrown into potato culture in this Province, there is no reason why our farmers should not derive large benefits from the potato market of the United States. In raising

potatoes we have as much natural advantage over Ontario and western New York, as they have over us in the raising of wheat, and the true secret of profitable farming is to grow the crop for which there is demand that is best adapted to the country. The one disadvantage is that the growth of potatoes for sale involves the carrying away of potash from our soil, of which it is already very deficient. This can be readily and profitably overcome by the judicious use of potash manures, such as Kainit and Potash Salts. The German Government thinking it better for their country to export potash salts in the highly manufactured forms of chemicals and drugs and potatoes than in the natural condition, imposed a duty upon the export of the crude Kainit. They thought it better to raise potatoes at home and send them to England and the United States than to send the Kainit and the labourer to the foreign country. This raised the price of Kainit and discouraged its use here. But even now potash salts are not too high to prevent our farmers using them to such an extent as to very largely increase our potato production. Where marsh mud is obtainable, or animals are fed upon the farm, the potash can be readily supplied to the soil. By careful selection of crops, and judicious culture, our farmers can well afford to pay for imported phosphates and potash. We are glad to see that the increase in the use of these artificial manures in our Province this season is not only much greater than in any former

year, but that the demand is taxing to the utmost the exertions of our importers and manufacturers. On every hand we see evidences of the working of a spirit of improvement in the minds of our farmers.

Wheat culture is growing apace, root culture is extending, and the improvement of live stock is rising into an enthusiasm. Since Mr. Stairs's offer to join the Board in an importation of Polled Cattle, we have been told of an agricultural firm who are prepared to duplicate the order if the Board are permitted to make an importation. It has been said that the farmers can wait for a year, but they say, in these times no business man will wait a year for his goods, and why should the farmers be asked to lose a year of their lives?

DARTMOUTH, 8th June, 1882.

At a meeting of the officers of the Dartmouth Agricultural Society held this evening, it was resolved that an exhibition be held in Dartmouth in the autumn. The sum of one hundred and fifty dollars was appropriated for prizes. A prize list will be published in a short time.

Competitors must be members of the Society. Any person can become a member by paying one dollar per annum. No member can compete unless his annual subscription be paid on or before the 1st August in each year.

Special prizes will be gladly received by the Secretary from any persons who may wish to give them.

Other arrangements regarding the exhibition will be published with the prize list as soon as they can be arranged.

EDWARD FOSTER, Secretary.

WILLOW BANK,
Pt. Williams Sta., April 8th, 1882. }

DEAR SIR,—At the request of Colonel Laurie I send to your address, care of Station Agent, Bedford, three bottles of ensilage, viz., one of second growth Clover and one of Corn from my own Silo, and one of Corn from Mr. F. C. Johnson's Silo. This clover was grown under fruit trees, and very much shaded, and cut and put into the Silo on a rainy day. The bottle of corn from my Silo is taken from directly under where the cutter stood, and is consequently nearly all leaves, the stalks being so much heavier were thrown to the farther side and have been all fed out. The bottle from Mr. Johnson's is more of an average sample. None of this corn had sufficiently matured at the time it was cut. Owing to the failure of the seed, this crop was not planted until the last of June, and for fear of frost we were obliged to have it in by the 25th of September, consequently, an analysis of these samples may not be a fair criterion. I believe, in order to obtain the most saccharine matter, the corn should grow till the pollen forms, but in this instance but very few stalks had spindled. I shall await with much interest the result of your investigations, and am much gratified to have both you and Colonel Laurie taking an interest in this new departure. My own experience, so far, has been most satisfactory, and I hope your investigations may go to still further prove what my stock have plainly demonstrated, viz., that we have a good thing, at least for winter feeding.

I have the analysis made by Prof. Goessmann of Mass., and also that of J. A. Barras of France, both of which are favorable, and particularly so that of Prof. Goessmann.

I am, &c.,

C. R. H. STARR.

Editor Journal of Agriculture.

DEAR SIR,—Perhaps it may not be out of place at this season of the year, to inform the readers of the JOURNAL, and horse-breeders in particular, that the Percheron Stallion "Havre," which took first prize at Halifax Dominion Exhibition, last fall, is now owned in Pictou County by Mr. John Fergassou and James Chisholm, of Pictou Landing. They purchased him from Mr. McFarlane of St. John, New Brunswick, at a very high price. He is a magnificent looking horse, looking much better than last autumn, and no doubt will greatly improve the agricultural horses, for which Pictou County has always been noted. "Havre" was raised by the Messrs. Dillon, of Illinois, and sired by "St. Laurent," the best Stallion they say, they ever imported. The owners of the horse "Havre" have placed the service at a

reasonable rate, that is, within the reach of all horse raisers, and will no doubt be successfully rewarded by the farmers of the county for their enterprise.

Yours, &c.

A. ROSS.

Middle River, Pictou, April, 1882.

A CORRESPONDENT informs us that the thorough-bred Jersey Bull advertised in another column, "Bon Hampton," has been in service at Yarmouth for three years, and he has got a large number of fine stock, have kept him myself the greater part of the time, he is without fault in any respect, but we want new blood not akin, and this I have got in "Favonius," which I propose to keep under my own eye as long as he is honorable. He is not half so fine looking a bull as "Bon Hampton," but is of the blood of "Eurotus," and we shall look for something good in his stock.

"Laird of Druffin" is a beauty, hope he will fall into good hands where there are Jersey's, if possible.

THE MANSE,

Hamilton Square, N. J., May 11, 1881. }

The thermometer stood at 91° in the shade yesterday. The trees are in full leaf now, in the gardens there are many early flowers. The fruit trees are lovely in snowy and pink tinted blossoms, and the farmers are as busy and happy as ever they can be.

(Circular.)

HORSES.

CENTRAL BOARD OF AGRICULTURE,
Halifax, N. S., May, 1882. }

The Executive Committee of the Board of Agriculture beg to announce that arrangements have been made for the payment of premiums to encourage the importation, and use in the Province, of serviceable horses.

The Committee on Agriculture reported as follows to the House of Assembly in 1881, and their report was adopted:—

"They further recommend that a bonus of ten per cent. on the first cost be paid to any party who will import and keep in the Province of Nova Scotia for breeding purposes, for at least five years, a horse or horses suitable for agricultural purposes. Said bonus to be drawn from the Stock Farm fund by the Board of Agriculture, and paid to said parties on the recommendation of a Committee appointed by said Board for the purpose of examining the quality of said horses. The Board shall also require an attested account of such first cost before paying the same.

"The Norman Percheron horse preferred."

In 1882, the Committee on Agriculture reported as follows, and their report was adopted by the House of Assembly:—

"We recommend that the Government do empower the Central Board to pay from the Stock Farm fund the amount applied for as bonus on horses imported during 1881, and in succeeding years to authorize the Board to pay an amount not to exceed \$800 in any one year, on the purchase price of importations, as recommended in the additional report presented by this Committee during the session of 1881."

The Executive Council of the Province, at a meeting held 28th April, 1882, passed the following minute, which was approved by His Honor the Lieutenant Governor:—

"That the Central Board of Agriculture be informed that the Regulation suggested by them in relation to the premium to be given on the purchase of horses of the Percheron or other suitable breed, viz.: that ten per cent. of the purchase money be paid from the Stock Farm fund, provided that in no case shall a higher premium than \$150 be paid, and the whole outlay of premiums in any one year do not exceed \$800, has been approved."

In accordance with, and by virtue of the authority given to them by the Minute of Council above quoted, the Board are prepared to receive applications for payment of premiums on the terms and conditions expressed and implied in the above recommendations and minute, such applications to be made on the sub-joined form. No premiums will be paid except to serviceable entire male horses.

For further information, application may be made to members of the Board of Agriculture in the several districts, or to the Secretary.

By order of the Board of Agriculture,
GEORGE LAWSON, Secretary.

FORM OF APPLICATION FOR PREMIUM ON IMPORTED HORSE.

I,——(name and address)——have imported (or intend to import) the horse hereinafter described, for service in the Province of Nova Scotia, and am desirous of drawing from the Board of Agriculture the premium of ten per cent. on first cost offered on certain conditions, as expressed in the preceding circular, for such importations; and, in consideration of such premium, if paid to me, I am willing to keep said horse for service in the Province for five years from date of importation, on the terms as to rate of service stated below.

(Signed by applicant.)

Name, breed, age and color of horse, (also pedigree, if obtainable.)
Name and address of raiser of horse

Name and address of person from whom the horse has been or is proposed to be purchased _____

Amount of proposed purchase price, or attestation of price paid if horse already purchased _____

State in what part or parts of the Province the horse is intended to be used, and the price to be charged for service of mares _____

I, _____, do solemnly declare that the several statements of fact in the above schedule are correct to the best of my knowledge and belief, and I make this solemn declaration, consistently believing the same to be true, and by virtue of the Act passed in the thirty-seventh year of Her Majesty's reign, entitled "An Act for the suppression of voluntary and extra judicial oaths."

Sign _____

Address _____

Date _____

Declared to before me _____, J. P.

Place and date _____

(Circular.)

SHEEP.

CENTRAL BOARD OF AGRICULTURE, }
Halifax, N. S., May, 1882. }

At the recent meeting of the Provincial Legislature, the Committee on Agriculture recommended as follows, and their recommendation was approved by the House of Assembly:—

"There is, however, a very urgent want of improvement in our flocks of sheep, which cannot be supplied without importation.

"We recommend, therefore, that grants be made to such Society or Societies in each district as may subscribe and pay up a fund for making such importation.

"That these grants shall be fifty per cent. of the amounts so paid up, providing however, that no district shall receive more than one hundred dollars for each county contained therein.

"That the bona fide paying up and expenditure of such money shall be certified by affidavit of the President or Presidents of such Societies, and that the sheep so imported shall be sold at public auction within the district, and to the members of such Societies as make the importation."

The Executive Council of the Province at a meeting held 28th April, 1882, passed the following minute, which was approved by His Honor the Lieutenant Governor:—

"That the Board be informed that the Government will be prepared to carry out the recommendation of the Committee on Agriculture, adopted by the House of Assembly at its recent session, in regard to the importation of sheep."

In accordance with the above report and minute, the Board are prepared to receive applications from Societies in the several Agricultural Districts of the Province for grants in aid for importation of sheep,—such applications to give the names of the Societies uniting in the importation, the amount subscribed and paid up, and the amount expended; all duly declared to before a Justice of the Peace by the President or Presidents of such Societies.

For further information, application may be made to members of the Board of Agriculture in the several districts, or to the Secretary.

By order of the Board of Agriculture.

GEORGE LAWSON, Secretary.

FORM OF APPLICATION FOR GRANT FOR IMPORTATION OF SHEEP.

We _____ President of the _____ Ag. Society, and _____ President of the _____ Ag. Society, &c., said Societies all being within District No. _____ of the Province of Nova Scotia, do hereby declare that said Societies have subscribed and paid up a fund for importation of sheep, such fund amounting to \$ _____; and that for the purchase of such sheep there has been expended from such fund the sum of \$ _____. And that it is our intention that such sheep shall be sold at public auction within the district, and to the members of such Societies as make the importation.

Place and date _____

We, _____ do solemnly declare that the several statements of fact in this declaration are correct to the best of our knowledge and belief, and we make this solemn declaration, consistently believing the same to be true, and by virtue of the Act passed in the thirty-seventh year of Her Majesty's reign, entitled "An Act for the suppression of voluntary and extra judicial oaths.

Sign _____

Sign _____

Sign _____

Declared to before me _____ J. P.

Place and date _____

The *Western Chronicle*, of Kentville, speaks thus of the recent importation and sale of Polled Angus Cattle by the Central Board of Agriculture:—"The Lidding was lively and the competition keen. The cattle brought extraordinarily high prices; the cow "Fame" and bull "King of Diamonds" fetching \$435 and \$460 respectively, while the two remaining cows, "Milly" and "Honesty," brought \$335 and \$350. The yearling bull "Jock o' Benton," \$335, and "Marksman," that had been sick during the voyage and while in quarantine, and that looked small and seedy, was knocked

down for the sum of \$225, making the handsome sum of \$2140 for the six. We will venture to say that these are the highest prices ever paid in Nova Scotia for cattle stock of any breed. A higher compliment could not be paid to the wisdom of the Central Board of Agriculture and to the Government. Our readers will remember that the first agitation made on the subject of importing this breed of cattle was through the columns of the little *Farmer's Manual*, published by us, which commenced in January, 1880, and died peacefully on the 1st January, 1882. Although the little monthly edition did not amount to much, it was the beginning of what we believe will prove to be one of the best moves in regard to cattle breeding ever started in this Province. The best evidence is the evident favor attending, and the high prices received for, the first importation. The *Western Chronicle* immediately took up the question, and assisted all in its power. Many whom we saw at the auction eager to bid for the black-skinned Moolys spoke very much in their disfavour two years ago, and said that the Short-Horn was good enough for them. Their change of opinion has its strongest argument in the fact that they were willing and anxious to pay a higher price for the Polled Angus than any Short-Horn had ever reached in this Province. Dr. Lawson himself must have been highly astonished at the corroboration of our opinions, which he quite strenuously combated, both in the *Journal of Agriculture* and from the stand, two years ago. [This last statement is not correct. No Angus man will ever be found to say a word against Angus doddies,—"hawks dinna peck oot hawks' eyene."—*Ed. J. of A.*]

We hope our friends are not forgetting the District Exhibition that we are to hold in Truro during the coming fall. We also hope that our contemporaries in the counties of Cumberland and Hants are now doing their best to make the Exhibition in this district not only a success, but the most successful of all the District Exhibitions that will be held in the Province. We expect, and the General Committee might naturally expect the same, that all the newspapers in District No. 4, will do all in their power to advertise and forward the interests of our Exhibition. A word here or there might rouse up some lazy exhibitor, and induce him to come and join in the general competition, that without doubt will rebound with credit to the three Counties that are now thrown into competition. As the General Committee is located in Truro to a large extent, and the executive officers are all here, we hope, that our contemporaries in the towns

mentioned will be ready to second all our endeavors to make the Exhibition a success, and to help forward whatever may come from said Committee. In any and every undertaking there must be a fountain from which the streams of life and vitality naturally flow. In this Exhibition business for '82, we, for convenience of work, have the Committee largely in our own town, but in no way does that interfere with the kind assistance that the different agricultural societies in Hants, Cumberland and Colchester can readily give us. We must work with a will all together and work with the idea that in Truro the best District Exhibition is to be held. So we ask our contemporary newspapers in this No. 4 District to especially give us all the aid they can.

Now a word to our farmers and other intending exhibitors. Are you doing all that you can to make our Exhibition a success? Do you intend, in full force, to bring your exhibits before the public, and, apart from the paltry money prize that may be offered, thus advertise the wares in which you are most interested? We have not the least doubt but that such is the fact, at the same time we cannot too strongly urge our farmers to be well to the front and to show the Province just what three fine Counties in this District are able to do. We want a good show, too, from our manufacturers. We want to see our iron-menglers, our foundries, our cabinet makers and upholsters, our tinmen, and in fact every mechanical industry that we have, thoroughly represented. In that way we will have a successful exhibition that will be a credit to the three Counties that are concerned in it.—*Colchester Sun.*

HORSES AND SHEEP.

It will be seen by circulars just issued by the Board of Agriculture, that the Agricultural Committee of the House of Assembly, of which our worthy member Col. W. M. Blair is Chairman, have recommended an annual bonus of \$800, for the introduction to the Province of good stock horses for agricultural purposes, of the Percheron or other suitable breed; as well as a grant for the present year, to the extent of \$1,800, for the importation of Sheep into Nova Scotia; and that the Government have authorized these recommendations to be carried out through the Board.

The circulars are clear and explicit, and have printed on them forms of application and affidavits necessary in each case. Persons interested can obtain them from the Secretary, or any member of the Board.

We sincerely trust the strong inducements held out in the circulars to the

farmers and Agricultural Societies to be their own importers of horses and sheep, will not be lost sight of by them, or lost to the County of Colchester. We should exceedingly regret that our horses should degenerate from the inaction of those whose duty it is to avail themselves of the bonus offered to good animals; or that we should have a recurrence of those scenes in our Supreme Court, which took place a few years ago on a horse trial at Truro, when a witness deposed that one of the animals swapped might have been good looking if he had been sheared, which caused the learned Judge Des Barres to inquire whether the horse was a sheep. And as for our sheep, notwithstanding they, as well as our horses, are much better bred than formerly, yet there is room for improvement in the appearance of many of them, whether shorn or unshorn; and besides, they are far less numerous than they should be for a fine grazing country like Nova Scotia.

We therefore expect that much good will result to the Province from the encouragement given by the Legislature for the breeding of good horses and sheep from imported stock; and, from the enterprise of our farming population, we believe that if this encouragement is continued, Nova Scotia will become as famous for horse flesh and mutton as little Prince Edward Island.—*Colchester Sun.*

COL. LAURIE ON THE NEW SYSTEM.

COL. LAURIE, of Oakfield, Nova Scotia, well known in military and agricultural circles, as a foremost man among the volunteer militia, and a famous breeder of Devons, is a convert to the system of Ensilage. He does not deny, that, against the system, some objections may be raised and exceptions taken, but he thoroughly believes that the matter is well worth looking into, and ought to be discussed and experimented upon by the farmers. He is impressed by the conviction that the farmers of Nova Scotia must go ahead—take some new departure, if they are not to be left hopelessly behind. And, if his remarks are true regarding our sister province, we cannot go far wrong if we apply them to New Brunswick.

Col. Laurie finds that notwithstanding the Province has much fertile soil and a climate favorable to the growth of any product of the temperate zone, and that it is better situated than any part of Canada for a profitable trade in agricultural produce, yet that many farms are offered for sale and still remain unsold. The great majority of farmers make only a more or less comfortable living; comparatively few, though they

work hard, accumulate money. One reason why they do not thrive better is, the Colonel thinks, because in some cases they spend far more in producing the articles than they realize when sold. He instances the case of wintering cattle, mentioning a fact, that, while a full grown ox will eat at least four tons of hay (the value of which he puts at \$40) during the winter, it certainly will not improve to that amount. The question of first importance to the farmer is, "how can the cost of production be cheapened?" Before ensilaging, or the preservation of green forage in air-tight pits, or silos, came to be practiced he was of opinion that feeding roots and cut straw, with meal or oil cake, was the best solution of the question, "How can the production of meat be cheapened?" On upland farms, he holds that the production of meat is a necessity if fertility is to be maintained, and other crops grown. But the successful experiments that have been made in ensilaging has caused him to change his views. When a man like Col. Laurie gives an opinion so favorable to the new system, (against which there still exists much prejudice) he should, at least be attentively listened to. He can have no possible interest in deceiving himself, or others, in this matter. A letter is addressed to the Windsor Mail by Col. Laurie under the heading, "How to procure milk for one cent per quart, butter for ten cents per pound, beef for four cents per pound, mutton for nothing, if wool is thirty cents per pound." He states, with some surprise, that very little interest has been taken in the new system—Col. Blair, of Onslow, Messrs. C. R. H. Starr and Johnson, of Port Williams, being among the very few who have tested and spoken highly of it. He goes on to say:—

"My own experience in the matter I willingly give, because, although it does not go to prove the success in preserving, it establishes an equally important fact, viz., that the yield of the land in green corn will furnish the amount which is claimed.

"I have always been in the habit of supplementing failing pasturage in the autumn and swelling my manure heap by growing a green crop to "soil" cattle. In 1880 I had some three acres of green corn, but, owing to a large amount of heavy clover after grass, furnishing unexpected feed, I found the frost coming on and striking my corn, about two acres of which was still uncut. I had heard of a system called Ensilage, but, although I wrote to friends on all sides, could obtain no details of the system. I had to leave home on duty, so gave the best instructions in my power, and these were carried out. I had the corn hauled home, put through the hay cutter, and pitted in

my turnip cellar, it was levelled and tramped, but the walls were rough stone and the partition wood—not in any way air-tight, and not understanding that our main business was to exclude the air we did not weight it, or close it on top. I had 45 head of cattle in the stables—they had a run daily in the rough dry pastures, but could not get much more than exercise there. The produce of these two acres lasted these 45 cattle for two months, and a very large amount of the cut corn, nearly a foot all around, top, sides and ends, rotted and had to be hauled away. Here then was a proof that the quantity was produced, one acre furnishing feed for the 45 cattle for one month. These seven acres would carry this number of cattle through one ordinary winter at this rate, and my cattle looked well and thrived on the food, which they ate greedily, and which had a strong molasses-like smell. It therefore, to my mind, resolves into a question of preserving this forage through the winter in an economical manner, and this Messrs. Starr & Johnson claim to have accomplished satisfactorily.

"Some objections have, I believe, been raised to the quality of the cut food, when it is taken from the pits,—it is asserted that the saccharine matter had disappeared. In order to test this Messrs. Starr & Johnson have each kindly furnished samples from pits to Prof. Lawson, who has arranged to test the material and ascertain if it has undergone any chemical change, reducing its value as food, and I hope to be able to furnish you his report. Mr. Starr has also kindly, at my request, experimented in mixing the cut forage, when raised from the pit, with cut straw, and his experiment, which he will no doubt publish, goes to show that the two together make a very palatable mess, which the cattle eagerly eat.

"Mr. Starr was so much interested in this new system that he went on, I understand, last spring to the Eastern States, visiting a large number of farms where this plan of feeding was adopted, and all spoke in its favor. He obtained a number of publications on the subject which he gave me an opportunity to look over. Some reports go to show that ensilage by itself is a cold food, and that animals on it alone do not thrive well in very cold weather. Neither would they on turnips alone. To my mind this cut forage rather takes the place of turnips than of hay. I should be inclined to feed it mixed (being allowed to stand say for 48 hours) with equal bulk of cut straw, and, in case of fattening cattle, meal or oil cake. Hay I consider altogether too costly an article on which to make beef profitably. 60 lbs. of corn ensilage daily will, it is

stated, keep an animal as well as 30 lbs. of the best hay.

"United States writers mention 70 tons of corn as the yield of an acre. I am content to base my estimate on half that amount. Thus we find an acre of corn keeps six animals, whilst at an average crop of two tons (a liberal estimate all over) of hay, it takes $1\frac{1}{2}$ acres to keep one animal.

"Another enormous advantage that corn, if thus preservable, possesses over turnips, is that its harvest time will come between grain harvest and potato digging, generally a slack time with us, as the ground is then usually too dry to plough the stubble. Turnips must be left till November, with the risk of being caught by frost, and those who, like myself, have had 25 acres of turnips to handle in November, know the drag and anxiety that attends the "pulling" time, beside which, as turnips are a drill crop intended to prepare the ground for grain, it is most undesirable to tramp up the wet ground in the manner that hauling 600 or 700 bushels of turnips off an acre naturally necessitates. Any crop then, that can profitably take the place of turnips, will, especially to us clay-land farmers, be welcomed. Thus, we get our ensilage pits filled before the beginning of October, perhaps even earlier, will clear our cleaned and manured ground for fall wheat, which, if successful, will materially reduce our spring labors in putting in our crop; to my mind this system if it bears out all its advocates assert, will, in my own case and I presume in that of farmers generally, cause a more thorough change, and all in the direction of economising and facilitating work and largely increasing the returns. It will encourage men to drain and improve their land. It will unquestionably necessitate some outlay in remodelling root cellars or building "Silos" or air tight pits, and apparently increased stable room also, but it will well justify all this by its returns, and will, I believe, give a new impulse to farming, an impulse that is certainly required."—From the Maritime Farmer.

GREAT HENNERIES.

Poultry are kept in this and other countries for fancy and for profit. A noble duke, a well-known authority in agricultural affairs, returns from his home farm every morning with a couple of new-laid eggs for breakfast. His grace keeps fowls for fancy and also for the sake of fresh eggs. There are poultry-houses that cost £1000, stocked with hens that cost £10 each. Their owners are poultry fanciers, whose superb henneries may be well worth description, but at present I have in view poultry-keepers of another sort. Mrs. Isabel Thorne, of Southover

Grange, Lewes, founder of the Association for the Promotion of Minor Food Production, has stated in the *Times* that the number of poultry kept in France is 40,000,000. These are kept for profit, and their owners are generally small industrious farmers. There is no difficulty in keeping poultry at a profit on a small scale when they pick up their own living and steal a little from their neighbours. In this country, however, and in America, all departments of agriculture are managed on a larger scale than in France, and an itching for poultry keeping on the grand scale must from time to time be gratified. A large business frequently beats a small one, on account of the superior economy of its management; and large poultry farms are constantly started in the hope that the same principles may be applied as in other kinds of large farming, such as sheep farming, where a flock of 1000 can certainly be kept more advantageously than a flock of ten.

Among the successful pioneers in this branch of industry is Mr. A. C. Hawkins, who has founded a large business on his father's farm at Lancaster, Mass. The sons of large farmers have been blamed sometimes for doing too little and sometimes for doing too much in the sporting line; this young gentleman of Massachusetts seems to have thought that, in the absence of foxes, poultry might be profitable. He commenced what has proved a very pleasant and profitable pursuit in preference to the alternative of idleness, which is too often forced on young farmers whose sires, being all energy and activity, are unwilling to dispute to Masters Jack on Tom any portion of the management.

When hens are kept in large numbers the strictest attention to one or two points is necessary, or they will assuredly come to grief. Their houses must be kept scrupulously clean. A *sine qua non* in keeping poultry healthy, especially when a large number is kept together, is cleanliness. It has been by means of his skill in providing for his feathered stock proper food, air, water, and shelter, and by their subdivision into small flocks that Mr. Hawkins has solved the problem which has puzzled and thwarted many who have attempted it. His system resembles in one respect that which has been often advocated in these columns—he keeps only young hens hatched in spring and sent to market after their first or second winter as boilers in July, or as autumn roasters. Thus he gets his best supply of eggs in winter. Examples have been already given of April chickens laying 100 eggs before they were a year old, beginning to lay at the most profitable period, early in October.

Mr. Hawkins is both an egg and fowl producer. His early chickens for market

are hatched under hens and reared under artificial mothers, mechanical contrivances which are safer and more manageable than the hens for brooding in the early period of the year, when the weather is inclement. The chickens, hatched in May and June, are brooded by their mothers in the open air. At five or six weeks old, at that season, the chickens are sheltered during the night in wooden huts measuring 6 feet high and 8 feet by 10 feet square, which are set upon a pasture sloping to the sun. The sun is all important. There is nothing like the sun's rays in promoting the health of all kinds of young stock. Light alone is not sufficient. Place some of your poultry or your pigs on a northern, some on a southern slope, and the latter will thrive faster than the former, escape diseases, and afford every proof of the special influence of the sun. Last year Mr. Hawkins hatched nearly 6000 by June 1, and the previous year 4000. They were all hatched, without the use of an incubator, in the old way which the first hen that ever clucked originally introduced, and which has not yet been superseded.

The Lancaster coops for sitting hens are novel. Two boards 12 inches wide and 6 feet long are set on edge 14 inches apart. The nest is placed at one end on the ground, and is covered over with a board, the rest of the coop being lathed. The hen is thus confined to her coop when sitting. Water and corn are placed within at the end furthest from the nest, and the inducement to roam is in that manner removed. This is a necessary part of the management when a large number of birds are kept. The eggs of the incubating hens are occasionally examined, for the purpose of removing any that may be broken. Mr. Hawkins is his own "help;" as some young gentlemen in his position have been obnoxious to unfriendly criticism for doing their own sporting, so, for want of game in Massachusetts, Mr. Hawkins looks after his own poultry. His stock consisted lately of about 200 hens sitting or rearing and 1200 laying hens, and his cooped hens had hatched an average of ten chickens each, hatching sometimes every egg. The hatching coops face the south, and lie, as already said, on the ground. They are shedded over inexpensively by a lean-to building. The brooding house measures 60 feet by 35, and has a span roof springing from a low sill, 1 foot from the ground. The southern side of this building is glazed like a greenhouse roof. It is warmed by hot water pipes, which pass along the middle of the building near the ground, and are connected with a series of iron tanks, 1 foot wide, 2 inches deep, and 6 feet long—i. e., the length of the chicken pens. They are jacketed with flannel, and form the artificial breeders already mentioned,

beneath which the young chicks nestle, the space under them being adjusted to the size of the young birds by means of a movable board, which forms their floor, and which can be raised or lowered at will. These artificial breeders for rearing young chickens early in the season, when the number kept is sufficient to afford the small extra cost, are preferable to rearing in the usual way. The process is completed under cover, within a small space and without confusion.

The laying stock consists, as stated before, of 1200 hens, which are marketed in July and the two following months at 18 months old after two winters' profitable work laying eggs, beside the spring business just described. The egg producers only are kept in yards in lots of fifteen or twenty without cocks among them. The want of free range, which has been so often insisted on as a necessity for hens, has not been felt, all the needs of Nature having been apparently supplied by art. Two flocks were respectively confined and allowed to range, and the former produced throughout autumn and winter 20 per cent. more eggs than the others. Certainly the ranging hens on many farms do not produce many eggs during winter, and they might be expected to do far better in the warmer atmosphere of houses. But Mr. Hawkins has found that the eggs of confined hens prove always less fertile than those of ranging hens which enjoy the advantage of exercise. His eggs for sale therefore are produced under one system, and those for hatching under another. His yard coop for laying stock is 8 feet high in front, 6 feet in the rear, 12 feet wide from front to back, partitions 10 feet apart, with a swinging door kept shut by a weight. They are placed in long ranges facing the south-east, and each door opens into a yard the same width as the partition (10 feet) and 30 feet long. The yards are protected along their exposed fronts by a fence which need not be described, inasmuch as every poultry keeper on the large scale must contrive according to the circumstances of his district, and if profit be his object he must keep down the expense. There are no fences that I know of so cheap as rough wooden fences in wood-producing districts. Elsewhere iron may be best.

Mr. Hawkins builds cheaply of wood. His roosts are 2 feet from the ground, and beneath are the nests protected with a board which is cleaned and kept dusted with ashes. The laying hens are kept in the coops, described already as "laying coops," and in their open yards throughout the year. Their food costs 4s. 7d. a year, and we learn from the *Southern Cultivator* that they lay nine dozen eggs a year. Both these totals seem moderate, and they leave a large balance to the credit of the general ac-

count. We should not expect to keep confined hens in this country at a cost of 4s. 7d. only per annum, and we should, I think, manage to persuade them to lay at least ten dozen eggs, taking time by the forelock and commencing in October as pullets of seven months. We should expect 100 eggs from each, and then a pause in spring, which would be followed, in the case of Leghorn and other famous egg layers, by an early resumption of business. We should expect also to beat the American competitor in the marketable value of our birds as boilers or roasters in July and September. He would probably "can" his hens; we should send them to London, where some "parties" would swear they were "spring chickens." But we are wandering far from Lancaster. Mr. Hawkins feeds twice a day—at 4 a. m., when light enough, and 4 p. m. The first meal consists of boiled vegetables (potatoes, &c) mixed with refuse meat from a bone-boiling establishment, chopped fine, and made into a pudding with meal and middlings. The second meal consists of maize, wheat, and oats, or other grain; cabbages, turnips, or other raw vegetables are always placed for the hens to pick at, which they seem to require to amuse them, and clean water. Refuse beet pulp from a sugar manufactory is used and much relished. Oyster shells are supplied, and dry ashes as a dust bath and for deodorising.

The young chickens of this well-managed establishment are fed on cooked food—oat and maize meal, wheat and buckwheat, a little meat, chopped cabbage, raw; fresh, clean water. A little at a time is the maxim in feeding young chickens, and five or six times daily when they are very young. A little bone meal is added to their food. They are kept in-doors early in the season entirely, as stated above, and straw chaff is scattered over their floor and frequently removed. It keeps them dry and serves to amuse them and teach them to scratch. These are the leading features in the management of poultry which have in this instance been advantageously kept on a large scale.—*OLD POULTRY-KEEPER in London Agricultural Gazette.*

At the winter meeting of the Ontario Fruit Growers' Association, opinions were elicited from several experienced growers on some important subjects:—

STRAWBERRIES FOR MARKET.

Mr. Gott thought the old Wilson's Albany stood at the head of the list. The Crescent Seedling is a new variety and one of great promise. The Kentucky is a very valuable variety. It is not a very heavy bearer, but commands a good price, being a late bearer. Mr. A. M. Smith said he did not grow many for market, and could not give much enlightenment

on the question. His opinion was that the varieties that paid best in his locality were the Early Canada, the New Dominion, the Sharpless, and the Crescent Seedling. He had some new varieties which were very promising. Some of Arnold's, he thought, would be very good for market. The Arnold's Pride and Bright Ida were very promising. The Glou Dale was a good late bearer, probably as good as the Kentucky. Mr. Huntsberger said the Wilson's Albany was the standard with him till last year. He thought well of the New Dominion and Kentucky. He would recommend the Early Canada and the New Dominion for market purposes. Mr. Morse thought the Captain Jack would outlast any. The Wilson, the Captain Jack, and the Crescent, he thought as most profitable. Mr. Arnold was in favour of the Mary Fletcher and thought it should be cultivated; perfectly satisfactory in every respect. No one would eat a Wilson after tasting a Mary Fletcher. Everybody admits the Mary Fletcher needed no fertilizer. The Alpha was the earliest. The Maggie and Bright Ida were capital berries for shipping purposes. Mr. Bucke said that in Ottawa the Arnold's Pride and New Dominion were most esteemed. Mr. Beale found nothing grow so well or pay better than the Wilson's Albany. The President spoke in favour of the Crescent Seedling and the Wilson's Albany. The former went into the market earlier and brought a higher price. He had never had a good crop off the New Dominion.

PEARS FOR MARKET.

Mr. Gott favoured the Bartlett. Mr. Gott spoke highly of the Flemish Beauty, and of the Louise Bonne de Jersey, and Clapp's Favourite. The latter was a combination of the Bartlett and Flemish Beauty. Mr. Orr had a large pear orchard, and he thought the Flemish Beauty paid better than the Bartlett, though the latter brought better prices in the market. Mr. Willard said there was a very great difference in regard to the profitableness of varieties of pears, and to the kinds that are most liable to blight. The cause of the peach yellows, if it is ever ascertained, will be found to be the same as that of the pear blight. He thought that the nearer we could keep to the Seedling the greater immunity from blight would be obtained and the greater productiveness attained. The Seckel is a pear near to the Seedling. He had never seen the Doctor Reeder blight. The Sterling is a pear which he had found never to have blighted in Michigan. The Rutter he had never known to blight. Mr. Woodward had an orchard of 4,700 to 4,800 trees. They were mostly of the Duchess variety, to which he applied a compost of salt and phosphate or ashes. He thought this a prevention of blight, not a remedy.

NEW VARIETIES OF POTATOES.

Mr. Bucke knew a party who had planted one pound of Dempsey variety which had yielded eighty-one pounds of excellent flavour. Mr. Wellington spoke highly of the White Elephant variety. Mr. Beale had compared the Dempsey and the Early Rose varieties. He had planted them side by side. Dry weather had affected both, but the former were a fair crop while the latter were a poor one. He had decided to plant in future the Dempsey. Mr. Morris favoured the White Elephant. Mr. Bucke believed that no potato came to stay. They would all run out in time. The President, in his remarks, stated that the Dempsey was a seedling of his own, a cross between the Early Rose and Early Goodrich. It never attained a great size, but was smooth, the eyes near one end, and a good cropper. He also stated that it was easy of cultivation, as the stalks generally grew straight upward.

FARM PUPILS.

Of all descriptions of student life to which the well-to-do youth of England are consigned, that of the "farm pupil" stands by itself. If an exact balance of the good and evil that have been acquired by the thousands of young gentlemen who, in the last twenty years, have been committed by fond parents or harassed guardians to the care of British farmers could be struck, I think the result would be a very practical demonstration of the inefficacy of this absurd system. The farmer, good soul, is in no way to blame. Without the experience of the schoolmaster or the tutor, without the recognised position of the professional rulers of youth, whose authority is at any rate never questioned by their subjects, and whose life's work is the discipline of youths such as they for the most part have been, he can hardly be regarded as responsible. When it is considered, too, what an immense proportion of unpromising subjects are placed in the hands of these agriculturists, we are inclined to the opinion, regarding it solely from their point of view, that the £100 or £200 which helps to tide over their difficulties, or to meet their rent, is so often well earned, for the domestic discomfort to which they are put. What is to be done with Tom? or where on earth shall we send Dick? are problems that are often solved by new-born yearnings in the breasts of these young gentlemen for a country life. Visions of an existence in which books have no place work on their imaginations till they persuade themselves that agriculture is their destiny. Tom is a capital shot, and Dick is a first-class rider. Outdoor life is evidently

what Heaven intended them for. Vague ideas of a sort of country gentleman existence haunt their fancy. A future composed of unlimited field sports, varied by an occasional ride round a farm, or a spin in a dogcart to market, takes possession of their brain, and the result is a letter to Mr. A. of Lincolnshire, Mr. B. of Yorkshire, or Mr. C. of East Lothian, who have made the taking of pupils their specialty, in which the fond parent, entrusting the boy to the care of either of these celebrities, hopes that he will give him "a thorough instruction in all the details of practical agriculture;" and probably adds that the lad "has been accustomed to spend a great part of his holidays with an uncle who lives in the country, and is no novice in such matters."

It is, in the first place, the vagueness of the study, and the consequent inability of all but its older or more seriously minded devotees to take hold of it, that constitute the absurdities which so often surround its pursuit. In the second place, it is the immense proportion whose future lives are not benefited in the smallest degree by their residence in an English farmhouse, even supposing they tread with unwearied diligence those monotonous rounds that constitute the duty of the conscientious farm pupil. The article clerk in time becomes the full-blown lawyer. The lads that throng the great engineering establishments of the North generally live to write C. E. after their names. The theological student in due time figures in the clergy list; but that great array of youth which is annually classed under the heading of agricultural students, what becomes of it in after life? In the palmiest days of British agriculture not 10 per cent. became British farmers. The limited demand for land-agents would not give employment to 5 per cent. of what we may in courtesy call the graduates of such a course, even supposing that such a demand as there is supplied itself solely through these channels. A great number, it is true, emigrate; and, indeed, by some astounding process of reasoning on the part of British parents, are snatched prematurely from the discipline and social advantages of school and college, and, with a view to their future success on the prairies of Minnesota or the ranches of Texas, are turned loose for a couple of years in the not very elevating atmosphere of a pupil-frequented farmhouse, to study from the back of a horse or the top rail of a gate a highly artificial system of agriculture, a recollection of which is more likely to be a positive drawback to them rather than otherwise in the career to which they are destined. It would be hard to imagine any mode of filling up this interval in the case of the latter

class more purposeless than this. The same time spent in mastering some useful handicraft, even if it had no direct bearing on their future, would be incomparably more to the purpose. The discipline and business habits of a bank or merchant's office, even at a similar premium, could hardly fail to exercise a far more beneficial effect both on the present and future of the young man's life. For the latter, if his future life is to be spent across the Atlantic, as soon as it becomes apparent that schools and tutors will not be of much further benefit, he should be domiciled in some thoroughly respectable, and if possible some refined and cultivated, American family living in the country and occupied in farming. There are hundreds of such whose influence and interest and friendship would be for such stray lads of inestimable value, and who would gladly receive young English gentlemen into their homes at considerably less than one-half what is paid for the questionable privilege of a residence in an English farmhouse.

In the brighter days of British agriculture the Lothians and border counties used to be alive with young gentlemen, not only from England but from half the countries of Europe. In the corn exchange, for instance, at Haddington, on market days they used to form quite a prominent feature, hovering round the long rows of sober-clad Scotch farmers standing by their sample bags, and congregating in the hotels, unmistakable in the Bedford cords, yellow gaiters, shooting boots and bird's-eye ties which that type of youth thought it absolutely necessary to affect. In an atmosphere dim with tobacco smoke and reeking with whisky, amid the jingling of toddy tumblers, embryo landlords, Danish and Swedish counts, Hungarian barons, ex-undergraduates from Oxford and Cambridge, students from Cirencester, would be staking half-crowns and sovereigns on the Derby or the Boat Race, the Grand National or the Waterloo Cup, with the boisterous confidence of ignorance and youth. Of course within the limits of a short sketch one can only generalise, and cannot attempt to notice the various types of establishments where the science of farming or estate management is made an excuse for keeping a boarding-house—from the gentleman farmer's, where half-a-dozen gilded youth, for the consideration of £250 a-year enjoy the hunting and shooting so carefully advertised, to the unpretending occupant of a 200 acre farm in Fife, who receives as a boarder the son of the well-to-do Edinburgh or Glasgow tradesman, at £80 per annum. Much individual good doubtless exists in a system that it is almost impossible to regard as otherwise than a farce, speaking generally. Those who

possess either ability or interest sufficient to procure them eventually the management of any estate may safely be left to take care of their own educations, but as a mere lounge for the book-hating youth, or even for the future emigrant, a course more deleterious to shaky morals, more profitless, or more wasteful of money could hardly be devised.—*Pall Mall Gazette.*

FLAX GROWING.—In our columns Mr. R. Stratton stated how, by help of a local demand for flax-straw for paper-making, he grew a crop of flax, which, in 1880, produced £16 per acre; and again, in 1881, produced £17 per acre. It is said that the demand of the paper-makers is almost insatiable at £4 10s. per ton for the straw. This produce was upon poor, light land in the West of England. Now this is an incident well worth taking notice of; but yet, upon the recital of it, the following warning seems to be desirable, "First catch your paper-maker."—*London Agricultural Gazette.*

Advertisements.

*Resolution of Provincial Board of Agriculture,
3rd March, 1882.*

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