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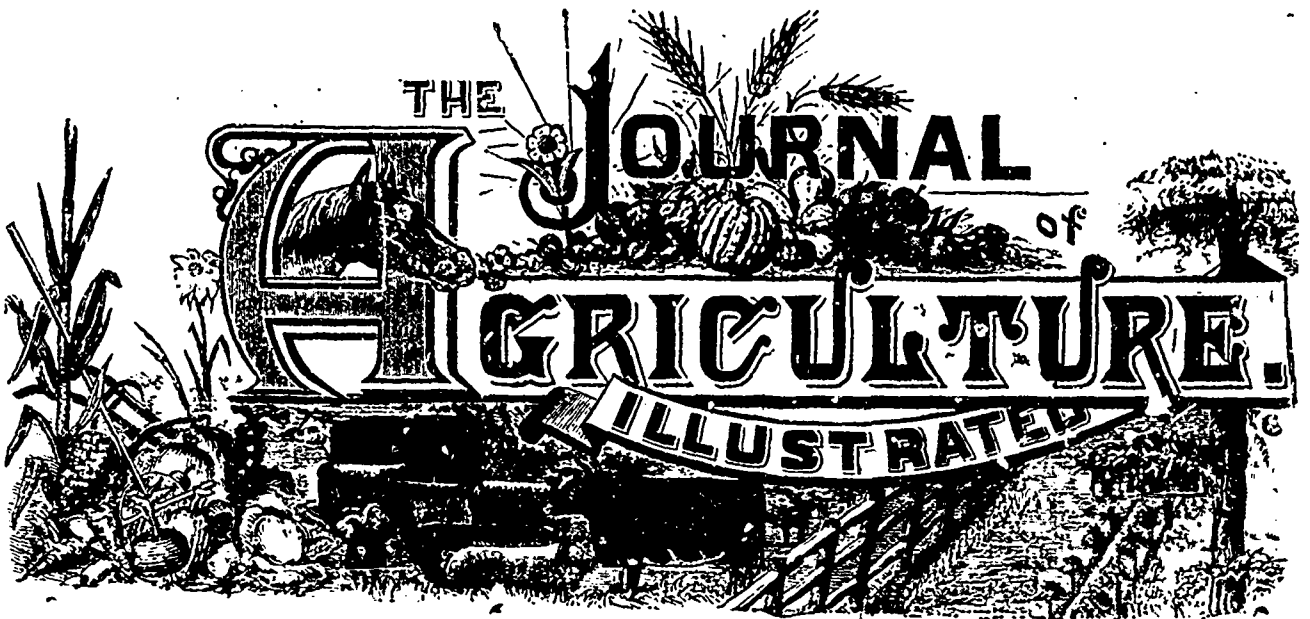
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Published for the Department of Agriculture for the Province of Quebec, (official part) by  
EUSEBE SENECAI & FILS, 20, St. Vincent St. Montreal.

Vol. XII. No. 9.

MONTREAL, SEPTEMBER 1890.

\$1.00 per annum, in advance.

**NOTICE.**—The subscription to the *Illustrated Journal of Agriculture*, for members of Agricultural and Horticultural Societies, as well as of Farmers Clubs, in the province of Quebec, is 30c annually, provided such subscription be forwarded through the secretaries of such societies.—**EDITORIAL MATTER.** All editorial matter should be addressed to A. R. Jenner Fust, Box 109, Lachine, Que.—or to Ed. A. Barnard, Director of the *Journals of Agriculture, &c.*, Quebec.

## OFFICIAL PART.

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### Some Effects of Soil on Sheep.

The influence of "environment" in modifying our breeds of sheep and the wool which they grow is becoming better understood every day, and those who attend to such matters have a decided pull over their neighbours. Climate or meteorological conditions have of course great power, but in addition to these the nature of the soil has had perhaps more to do in making things as we now find them than any other one factor. The different breeds are now so much differentiated from one another, and so thoroughly imbued with the characteristics of their individual districts, that removal to another locality is as often followed by failure as not. Thus one gentleman who tried Hampshires in Cambridgeshire had to give up the experiment, and another found Cotswolds unsuited to Suffolk.

Even where the experiment may prove a financial success

it is found that the sheep change their nature or characteristics, and would appear in time to approximate to those native to the locality, and this in spite of repeated importations of first-class rams. It has been said that if a flock of sheep were divided into lots, and each lot sent to different districts of Britain and kept from inter-breeding with other kinds, each would in the course of a few generations develop points and peculiarities which could easily be accentuated by selection only, and thus "breeds" be manufactured altogether different from the original strain. These changes would take place altogether independently of food or climate, because these two factors tend to approximate to one level as the result of modern farming. Cattle, corn, turnips, and pasturage are all made as good as we can, and on pretty much the same lines everywhere, and it is only in the case of natural pasturage that the natural effects of food can manifest themselves. Even natural pasturage is drained and limed and otherwise interfered with so as to bring it up as nearly as possible to the standard of good quality. Again, climate is pretty much a result of the physical configuration of the land or the nature of the subjacent rock within the narrow limits of the British Islands, and here again we endeavour to "level up" by artificial shelter, plantations, draining, &c. We thus come back to the soil as the real basis of the difference and changes which occur naturally, and on to which man has engrained his selection, crossing, development, &c.

The wool itself takes peculiarities, quite independently of the animals on which it grows, when the locality is changed. Each breed has normally a variety of its own while kept to its own native district, but this changes when they are removed to a different district. Some soils colour wool to such an extent that it can never be washed white, while if sheep from different localities are mixed it is generally possible to

distinguish them for a long time by the differences in the colour of the wool, and this can sometimes be seen through the artificial dressings employed. Rich clay lands produce the best wool, and loam comes next, while the hard dry soils on chalk or sands yield produce of rough quality. The limpid pure water of limestone regions cannot be used for wool-washing purposes, on account of its hardness making it unsuitable for this purpose. The length and evenness of the fibre of course depend on the food supply, but the indefinable "quality" is a matter depending on the soil where the sheep pasture. Thus Sussex and Surrey wool is of better quality than that from Essex or Norfolk; Leicester and Nottingham better than that of Oxford and Bedford; and Roxburgh wool better than the Lothian material. Even individual farms may have a known and fixed special quality, as is exemplified by the sales in some parts of the Highlands of Scotland, where the merchants buy according to the known "character" of the clips, and without ever seeing the wool at all. In such a case individual management, feeding, use of well-bred rams, &c., must all be reckoned as subordinate to the natural influence of the soil and surroundings, which stamps the individuality.

It is curious to note that the sheep of the eastern counties of England have all bare heads, while those of the midlands and west are well covered up with wool, though it cannot be said that this is a result of soil influence so much as climate.

The diseases of sheep are very much influenced by the nature of the grounds over which they pasture. Liver-rot is much more prevalent on heavy clay soils than on those of the lighter class. An instance of this occurs in the investigations reported in No. XXXIII, of the Royal Agricultural Society of England's Journal. It was found that the fluke was very prevalent on the Oxford clay, but not at all on the neighbouring calcareous formations. Foot-rot follows the same rule, and is most prevalent on heavy wet soils, and almost unknown on sandy or rocky pasturage, or on the chalk. A correspondent of the *Live Stock Journal* has pointed out the unsuitability of mangels as a food for rams or widders on the ironstone formations of the midlands on account of a deposit of a salt of lime in their urinary organs, requiring the dosing of the animals with small quantities of nitrate of potash as a preventive.

Instances might be multiplied where the well-being of the flock depends entirely on the nature of the soil formation, and there is no doubt that many readers of this article could give facts from their own experience of modifications of the nature of breeds, and differences of management, all depending on, or due to, differences of soils. Modern farming is pretty much an interference with, or a guiding of, natural processes, and the more a man follows the leading of nature the more successful he will be. The nature of the soil is one of the first consideration to a farmer, and the more he knows of its influence on his flocks and herds the better able will he be to make their management a success.

P. M.C.

#### BUTTER AND CHEESE.

LONDON, FRIDAY.—Trade for fresh butter is rather dull, Aylesbury firsts making 13s., second 11s., and thirds 10s., west country at 11s. to 12s. per 12 lb. Foreign butter market dull and depressed. Friesland quoted, 84s., 86s., and 88s. Normandy, ordinary best baskets, 98s., extra mild, 102s. Present top prices of Danish 112s. to 114s., but the price in Copenhagen having declined 5 kr. on this week's shipments, arrivals next week will be 4s. to 5s. under this week's rates. The stock of English cheese is very small. Finest Cheshire from 78s. to 84s.; medium to fine, 48s. to 70s., Derby, 60s. to 66s., best double Gloucester, 66s. Somerset, 56. to 66s.,

finest Cheddar, 66s. to 74s.; others, 56s. to 60s.; and loaf, 62s. to 66s.; best double Wilts, 66s. medium, 46s. to 50s. American cheese dull of sale and casier; best coloured, 52s. to 56s. Dutch steady in value but quiet.

CHEESE FAIRS.—At Leicester on Thursday there was a very small supply. Choice dairies were very scarce, and where the cheese was true of flavour and of rich buttery quality, trade ruled very brisk at an advance of 7s. to 10s. per cwt., while in good useful lots the advance established ranged from 5s. to 7s. 6d. per cwt., and in the case of inferior lots 2s. 6d. to 5s. per cwt. The best dairies made 85s. to 86s. per cwt., and good useful cheese ranged from 75s. to 82s. per cwt., while secondary qualities made 70s. to 73s. per cwt. and inferior 63s. to 68s. per cwt. Stilton cheese was in strong demand, and the best qualities sold very freely at 2d. per lb. advance, secondary qualities 1½d. per lb., and inferior 1d. per lb. dearer. Choice dairies of Stilton cheese made 10d. per lb., good useful lots 9½d. per lb., and secondary and out of condition dairies 7½d. to 9d. per lb. The whole of the dairies shown were quickly cleared off, not a single lot being left unsold. At Salisbury on Thursday good Cheddars made 55s. to 58s., fine ditto 60s. to 65s. At Lancaster on Wednesday the bulk of the better sorts realised 70s. to 72s. 6d., other kinds 62s. to 70s. At Chippenham on Friday—Cheddar 50s. to 60s., Somerset 44s. to 54s., thin 30s. to 48s., and half-skim 20s. to 30s. per cwt., milk butter 11d. to 1s. per lb. retail.

#### THE CATERPILLAR SCOURGE.

That some persons who are in "happy ignorance" of the destructiveness of the caterpillar of the Winter Moth *Cheimatobia (brumata)* in orchards and fruit gardens should regard various statements that have been made respecting it as not untinted with exaggeration is only what might be expected. The persistency of the attack of the enemy, its extraordinary increase, its terrible voracity and remarkable invulnerability to ordinary insecticides, can only be appreciated by those who have either had to wage war against the foe or seen the desolation it leaves behind after an invasion. Mr. J. Higgins, whose trees are free from insects, evidently thinks it right that he should have apples, and other persons caterpillars, and he almost implies that those who are victims of their attacks are either visionaries frightened at their own dreams, or that they deserved the visitation as a judgment to them for killing birds. He cannot know that where birds abound and are protected that caterpillars much more abound, and when unmolested leave the trees as destitute of fruit and foliage in May and June as his own are at Christmas. I certainly do not think it right that insect-eating birds should be destroyed, but who will say it is wrong to destroy caterpillars where there are not sufficient birds able or willing to eat them? Those who do say so must be content to share with the pests in the wholesale destruction of human food, and, if they can, be thankful.

Some kind friend has sent me a "cutting" from a newspaper in which Mr. Jabez Hogg says: "Syringing trees with a solution of a deadly poisonous nature is as unreasonable as it is unscientific," and would "settle all bird-life." At Glewston Court, Mr. Campbell's splendid bush apple, pear, and plum trees have been syringed twice a week for the past two months, yet in the plantation chickens are kept, and have free range through the plantation for eating the caterpillar that are shaken from the trees, and I do not know that any of the birds have been "settled." Moreover, the practice denounced as "unscientific" is advised officially by Mr. Charles Whitehead of the Intelligence Department of the Board of Agriculture,

and he publishes the following in support of his recommendations—"Professor Linter, entomologist of the State of New York, in a recent letter says that in his opinion fruit growers who do not use Paris green as a remedy against caterpillars infesting fruit trees are guilty of culpable negligence."

Mr. Jabez Hogg goes out to intimate that "fruit growers may save themselves all the trouble and expense of springing by the preservation of our feathered friend" and if they neglect this, "retribution" will surely come, when

"Hosts of devouring insects crawled and found  
No foe to check their march, till they had made  
The land a desert, without leave or shade."

These lines admirably represent what has already come in districts where birds are cherished and preserved, therefore not as a "retribution." A "foe" is obviously needed to, we will say, assist the birds to "check the march" of the devouring pests which crawl and eat till not a leaf was left.

A great lover of fruit and birds found he could not have both on his bushes together, because the birds eat all the bush in spring, and in summer devoured his strawberries. "Oh! net the beds and bushes," say the bird preserver. But is precluding birds from food "preserving." Is it not more like starving them? The gentleman in question did, however, not from birds, and very thoroughly. He had the trees and bushes in a large square in his garden, which he enclosed in a huge wire cage, with doors for ingress and egress. The fruit cage is tall enough for a tall man with a tall hat to promenade amongst the trees and bushes, and there is plenty of fruit on them.

Now, please note, with the object of learning whether he could have fruits without birds, he determined to exclude them at all times. Here is the curious result before the enclosure his gooseberry bushes were defoliated with caterpillars, but now they are free from the pest. He confesses he cannot account for the change, but has been driven to the conclusion that "there is a good deal of sentiment in the feathered friends' fraternity," and intends keeping his fruit cage closed throughout the year. It is not quite safe to dogmatise on these things.

Mr. Campbell of Glewston and his gardener have done good service to fruit growers in the discovery they made of the favourite nesting places of the insects, the consequence being the destruction of millions of eggs.

It is better not to disguise the fact that Paris green is dangerous. An entomologist writes in a letter before me that, owing to the insolubility of the substance, "grains of it are sure to lodge in the angles of twigs and branches, within buds, &c. and the probability is that afterwards, as the drying process is completed, these may be wafted through the air to the injury of persons approaching the trees operated upon. Again, there is to be considered the effect of this patent article upon the trees; first, in its being applied to branches and foliage; secondly, by its descending to the roots, for in the spraying process some of the liquid must fall on the soil below. Chemists and fruit-growers whom I have consulted are unanimous against its use, and there is really no difficulty in finding washes, which though less poisonous, are quite efficient in caterpillar killing."

Hertfordshire and Gloucestershire fruit growers will be very delighted to know what the washes alluded to are. Hellebore, petroleum, alum, quassia, and, as far as I know every thing else that has been recommended have been tried, and while several preparations destroyed the gooseberry caterpillar, they have had no such effect on the larvæ of the winter moth. The tenacity of life of these caterpillars seems remarkable. Immersion in strong solution of hellebore (8ozs. to the gallon) did not kill them. They crawled about in petroleum and water stronger than could be applied to trees. Mr. Wise of Toddington says they "enjoy alum." Mr. L. Castle has had

them alive in Paris green water for twenty minutes. Nothing appears to kill them by contact except perhaps, quassia, and soft soap, and this has not been found efficacious at Glewston. The last recorded formula from there is 10 lbs. quassia chips and 7 lbs. of carbolic soap boiled together and mixed with 5 ozs. of Paris green with 100 gallons of water. That has answered so well both against the caterpillar and insects that it will probably be the concoction in the future.—From a paper by Mr. J. Wright, in the *Journal of Horticulture*.

#### DE OMNIBUS REBUS.

*Practice with science.*—I fancy many people connected with the experiment-stations in the States are in danger of making the mistake of placing science before practice in matters concerning farming. It would be well for the readers of the numerous bulletins that proceed from these establishments to remember that practice, in almost every case, has been in advance of science in the application and use of manures and of the different foods given to the stock of the farm. For instance: *bones* were used as a manure for roots nearly a hundred years before science explained that their efficacy was due to the phosphoric acid they contained; we did not need the investigations of the stations to teach us that pease and other leguminous plants increased the proportion of lean meat in our fattening animals, for English farmers had always used gray-pease for their bacon-hogs, and lambs had white-pease in troughs given them when being prepared for market, while older sheep had beans, and bullocks, beans, lentils and oilcake, long before science taught us that the increase of muscle was due to the nitrogen contained in these foods.

Did science find out the value of linseed-cake for feeding cattle? By no means: a poor man's cow was observed to frequent a spot in the rear of an oil-mill, at Hull, Eng., where the refuse of the crushed linseed was daily thrown. The cow got so fat that the butchers were soon after her, and when slaughtered, she was so full of suet that her reputation was spread abroad throughout the district. Enquiries were instituted as to the source of this accumulation of adipose, and the cow's footsteps were soon tracked to the mill and the cause of her thriving exposed. From Hull, the use of cake soon ramified throughout England, but science could take no credit for its application.

And the same with rape-cake: When Lord Leicester, in the early part of the 19th century, set about improving the then almost barren sands of his Holkham estate in Norfolk, which then let for 5s. an acre; seeing that linseed cake fattened cattle and sheep, it struck him that it would also fatten land, but finding it too expensive to be used as a manure, Lord Leicester bethought him that the refuse of another oil-plant, *rape*, would probably have the same effect as the more costly material. Rape-cake was tried, and succeeded beyond expectation: thus, with bones for the root-crop, fed off *in situ* by sheep eating linseed-cake, rape-cake for the wheat crop, and the farm-yard manure mixed with meal for the clover, the celebrated Norfolk, or four-course cropping system, was instituted, and the land raised in value from 5s to 35s an acre, which latter rent was customary on the estate when I left England 33 years ago. But science had nothing to do with it: the use of the materials of improvement was purely empirical, that is, experimental.

When Lawes, too, showed by his experiments at Rothamsted that Liebig's theory: The crops on a field diminish or increase in exact proportion to the diminution or increase of the mineral substances conveyed to it in manure: was abso-

lutely incorrect, he invoked practice not science to prove his case; and it is very much to be wished that every farmer would devote a piece of land to the trying of experiments for his own satisfaction and the improvement of his own and his neighbours' practice.

I do not of course mean to convey that experimentation is not a part of science generally so called, but we must always remember that science, or knowledge, is the fruit of experiments.

The primary object in every experiment should be to make it *comparative* in its circumstances as regards the field, soil, situation, time, and labour, with a crop raised in the ordinary way. Without making such an extensive comparison, no satisfactory conclusion can be arrived at, since no common ground would exist by which to measure the gain or loss obtained by the experiment. The experiment should also be made on the same kind of crop as the one with which it is compared. For example:—If the field is in grass, which it is intended to plough up for *oats*, then the proposed experiment should be made on *oats*, not on wheat, upon the lea; for no elements of comparison exist between wheat and *oats*.

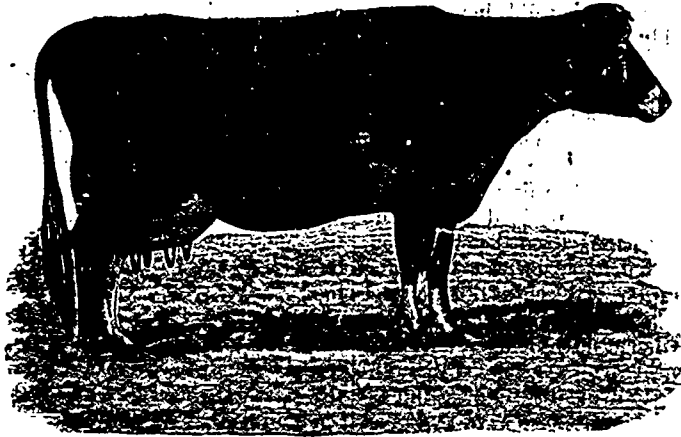
The ground should also be ploughed in the same manner, which is a point of greater importance than may be imagined. I have known, in a field of lea, of strong soil, the ridges gathered up yield a better crop of *oats* than those cast together; and I have also seen gathered up ridges free from grub, whilst cast ones were affected by that complaint. Mr Stevenson, Redside, East Lothian, obtained a difference in the crop, on different ridges, whose furrow-slices lay in opposite directions. No reason could be assigned for either of those differences; but they were sufficiently observable to show, that one mode of ploughing land, and one aspect of the furrow-slices, affect the crop in a different manner from another mode of ploughing and another aspect. I have frequently heard it stated, that the crop on the furrows lying to the W. or to the S. is better than on those lying to the N. or the E. Some difference of effect must be produced by the aspect of ridges, for it is clear that a S. aspect will bear a better crop than a N. one, other things being equal. But even if the grain of the experiment and of the crop were the same, if the experiment were made in a different field, at a different period of the rotation, on a different kind of soil, in a different situation, and at a different season of the year, it is obvious that no common grounds of comparison would exist between the two cases, and the particulars of the one would be no guide for directing those of the other. Every particular in the cases must therefore be alike.

When a comparative experiment is to be tried with different kinds of manure, the land should be manured when in the same state, on the same day, at the same period of the day, and on the crop or crops at the same age; for I have obtained very different results from the same manure applied in the forenoon and afternoon of the same day on the potato, and on the root crop. It is the same with specific or a mixture of specific manure. For example, it will not do to try different specific manures upon grass which has been laid down

after potatoes, against that laid down after roots; nor upon a grain crop after roots which had been eaten off with sheep, against the same kind of crop upon land from which the roots had been carried off altogether. *Comparative* experiments could, no doubt, be made on these different conditions of grass and of grain after roots, were the same specific manure employed, but *different* specific manures will not give *comparative* results in different circumstances. In like manner, it will not do to apply *different* specific manures to *different* sorts of wheat, barley, or *oats*, as each variety of grain may possess such an idiosyncrasy as to be very differently affected in similar circumstances and the results obtained from such circumstances would not be comparative. Experiments may be made on different varieties of crop in different circumstances, without reference to comparison at all; but unless the results of experiments are compared with ordinary practice, no practical use will be derived from the experiment.

Manures of whatever kind should be applied to the soil by the same means. One ought not to be applied by hand, and another by machinery; one in a dry state, another in a state of solution, if it be desired to make the experiment *comparative*. The states of the manures may be varied, but then they should be applied in the different states in the same circumstances as in ordinary practice, to render the comparison of any value.

I was led to the above remarks by the sight of "Bulletin No. 37 of Massachusetts State Agricultural Experiment Station." This pamphlet is devoted to the elucidation of certain experiments conducted at the Station, with a view to the ascertaining of the cost of food devoted to the preparation of fattening lambs for the meat-



THE GREAT BUTTER COW EUROTISAMA 29668 A. J. C. C.

market. Those experiments are the first of a series intended to be pursued, and are therefore hardly to be dealt with as a completed work, but enough of their tendency is shown to justify me in making a few observations upon them.

And, first, on the subjects—as the Scotch, following the French, say—chosen for experiment: they were as follows:

“Six grade lambs—three ewes and three wethers—bought (Sept. 4th, '89) of a farmer in our vicinity served for our observations. They consisted of five Hampshire Down and one Merino—grades. Each animal occupied during the entire period of observation a separate pen. They were shorn before being weighed at the beginning of the experiment.”

It would have been more in accordance with judicious work to have had all the lambs of the same sex and of the same breed. A merino-grade can hardly be compared, as regards profitable conversion of food, with a Hampshire-down-grade.

“The daily diet of the entire lot consisted, during the first week, of rowen (hay?). They were subsequently treated in two divisions, each comprising three animals. This division was made for the purpose of comparing the effect of two distinctly different daily fodder rations on the financial results of the operation. Division 1 Nos. 1-2-3 received a daily diet much richer in nitrogenous food constituents than the one adopted for Division II. (Nos. 4-5-6). This circumstance was brought about by feeding to the first division as grain-fed a mixture of wheathran and of gluten meal, and to the

second division one consisting of a liberal proportion of corn-meal with some wheatbran and gluten meal. The coarse portion of the daily food was in both cases essentially the same, namely, either rowen, or rowen and corn ensilage, or corn ensilage alone. It was cut before being mixed with the grain feed—when fed. The daily fodder ration was divided into three equal parts and fed respectively in the morning, at noon and in the evening. The amount of feed left unconsumed, if any—was collected each morning and deducted from the daily ration offered the preceding day for consumption."

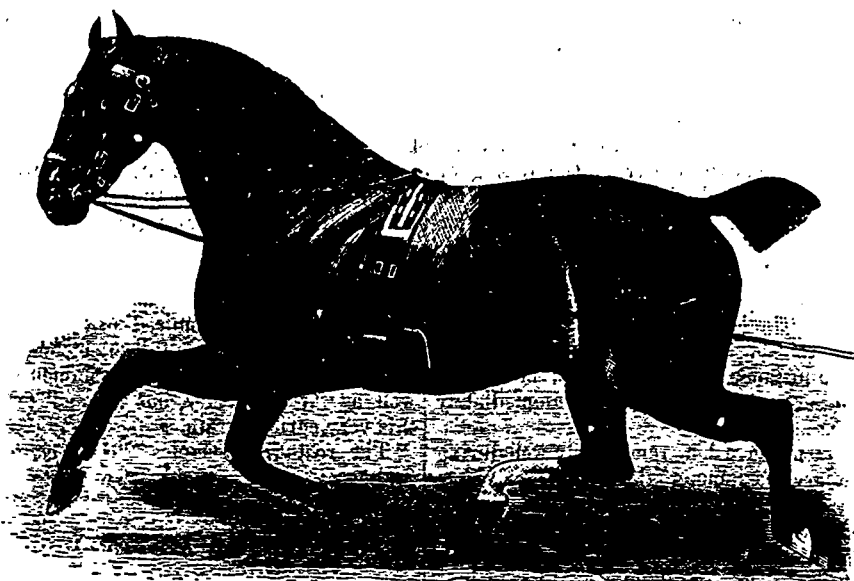
I had thought that the effect of food rich in nitrogen on the preparation of lambs for the butcher had been settled long ago, and I cannot help regarding the repetition of experiments of this kind as a waste of time. Lamb No. 5, it should be observed, is the Merino-grade.

- I. Division, entire lot gained in live weight on an average per day..... 0.706 lbs.
- II. Division, entire lot gained in live weight on an average per day..... 0.445 lbs.

The Merino-grade (No. 5), it will be remarked, only made a gain of 20½ lbs. of live-weight during 194 days, while its neighbour No. 4, on the same food gained 35 lbs during the same period. Had a fitting mate been chosen to Nos 4 and 5, the gain of the whole division No. II would have been nearly 102 lbs

THE FINANCIAL STATEMENT :

"The profit obtained from both divisions of lambs is due to the manure produced, which is stated to be worth, for No. 1



PRIZE-WINNING ENGLISH HACKNEY STALLION EDMONT.

4. GAIN IN LIVE WEIGHT DURING THE EXPERIMENT.

I. DIVISION, (1-2 3).

Time of observation extended over 152 days.

	Live weight at the beginning of the experiment. (lbs.)	Live weight at the time of killing, before shearing. (lbs.)	Gain in live weight during the experiment. (lbs.)
1.	79.00	118.25	39.25
2.	66.00	98.50	32.50
3.	70.75	106.50	35.75
	<u>215.75</u>	<u>323.25</u>	<u>107.50</u>

II. DIVISION, (4 5 6).

Time of observation extended over 194 days.

	Live weight at the beginning of the experiment. (lbs.)	Live weight at the time of killing, before shearing. (lbs.)	Gain in live weight during the experiment. (lbs.)
4.	67.50	102.50	35.00
5.	66.25	86.50	20.50
6.	78.75	109.50	30.75
	<u>212.50</u>	<u>298.50</u>	<u>86.25</u>

division, \$5.67, and for No. 2, \$4.49. Barring this, there was no profit on the feeding, and no interest is charged and no expenditure in wages reckoned. The main conclusions arrived at by the conductors of the experiments are :

1. The superior feeding effect of a daily diet rich in digestible nitrogenous food constituents when raising lambs for the meat-market (which we knew 100 years ago A. R. J. F.) is well demonstrated in Division I. as compared with those in Division II.

2. The good services of the particular fodder rations used in case of the first division of lambs is shown by a fair rate of increase in live weight.

3. Corn ensilage as a substitute in part for rowen has given very satisfactory results.

4. The profit obtained with reference to both divisions of lambs is due to the commercial value of the fertilizing constituents contained in the obtainable manure. This value amounts in the case of the first division of lambs to \$5.67. To appreciate this value properly, it needs to be considered, that in determining the financial results of the experiment all home-raised fodder articles are counted on the basis of their retail selling price in our vicinity. Sheep are known to produce one of the best home-made manures.

The decidedly beneficial influence of a rational and liberal system of stock feeding on the financial results of a mixed

farm management cannot find its full expression in the mere presentation of the results of a feeding experiment, however carefully the matter may be arranged."

*Messrs. Dawes' farms.*—With the exception of the oats, the appearance of the crops on these farms is highly satisfactory. The root-crop is by far the best of all those I have seen since I have been living here. Tormented as the swedes were by the fly, they have beaten it, and promise well for a twenty-five tons an acre yield. The white and the red carrots are good indeed, and the mangels too; potatoes as flourishing as lots of dung and thorough cultivation can make them.

By the bye, in speaking of the comparative failure of the grain-crop on that part of the old hop-yard that had not been manured for silage-corn, I wrote *barley* for oats. I make the correction, though I presume my bitterest enemy will give me credit for knowing the difference between the two plants at even the earliest stage of growth.

The barley on the Cross farm, after roots, stood up wonderfully against the terrible storms of July; I confess I expected to see it all flat on its back. The roller is a great implement, and I hope the Messrs. Dawes will provide themselves with a heavier one before next season.

Talking of rollers, Mr. Tuck is puzzled to account for the fact of the *last six rows* of his white carrots, the rolling of which was arrested by a heavy fall of rain, being as fine as, if not finer than, the rest, which were rolled. My solution of the mystery is, that the tremendous down-pour which followed the seeding packed the ground together even tighter than the heaviest roller could have done. Besides, the last six rows are lower down the hill-side than the rest; consequently the quality of the soil is better. Any how, we cannot generalise from one instance, and I must still hold that drills of carrots and other roots should be rolled immediately after sowing.

The stock on these farms have done remarkably well during the past year—no diarrhoea among the Jersey calves to speak of.

The silage-corn is looking magnificent. (1)

*Sorel Farms.*—On Tuesday, July 22nd, I paid a visit to my old pupils at Sorel, and highly gratified I was at my reception. One does not often meet with such gratitude as I am proud to say they evinced for the benefit they profess to have derived from my instruction.

Senator Guèvremont, who has plenty to look after in other ways, has given up farming. His son Pierre, who was one of my most promising pupils, is employed at the harbour of Sorel, and, I dare say, finds it a more remunerative, though not so agreeable an occupation as agriculture. The Senator's large farm is let out on shares to the Sorelois, and seems to be chiefly planted with corn and potatoes. The corn was by far the best I had seen, and the potatoes by no means bad, though, as usual, the rows were too wide apart, and the sets too close together in the rows.

The farm of the MM. Séraphin and Baptiste Guèvremont was, on the whole, satisfactory, though of course, to a critical eye, there were a few faults to be seen.

The course of cropping, &c., intended to be pursued on this farm is as follows:

- Year.
- 1.—roots—potatoes, carrot, swedes and yellow turnips.
- 2.—half barley—half oats: wheat does not pay here.
- 3.—hay.
- 4.—do.

(1) It was 8 feet high on 17th August, and promises to yield at least 300 tons on the 14 acres  
A. R. J. F.

- 3.—pasture.
- 5.— do.
- 6.—oats.

The root-crop receives 40 one-horse loads of dung to the acre, and half that quantity is given to the first year's grass immediately after the hay is off; in fact, the dung-cart was already at work, the day I was there, on the new meadow, though the hay had not yet been carried! Seven hundred and fifty loads were drawn out last winter and applied to the land for the root crop.

The new grass was very fine; there would be certainly, in my opinion, two tons to the *imperial acre*, and as M. Séraphin laid the crop at 250 bundles to the *arpent*, I do not think I was far out, there only being two bundles between us. In many places the hay—pure timothy—was four feet high, and I judged the height from the pony—just 12 hands—that drew the gig through the meadow, much to my horror; but M. Guèvremont, naturally very proud of his crop, insisted upon it: the heads of the timothy overpassed the pony's withers. Pretty well for the Sorel sand!

The oats and barley, after last year's roots, were not looking so well as I could wish, even after making due allowance for a late season and heavy rains after sowing was over. They bore every mark of having been put in hurriedly, the harrowing having been insufficient, and the rolling neglected. I am afraid this will tell on the subsequent crops of the course, particularly on the young grass.

The most promising piece of oats on the farm is two acres of Black Tartars, the seed for which I sent M. Guèvremont last spring. A very fine acre of Japan buckwheat, a sort I never saw before, promised to be 4 feet high before it had done growing, and was full of bloom. Several acres of the upper part of the farm was in common buckwheat, and looked well, as far as I know, but I do not profess to be a judge of this very curious grain.

The root-crop occupies 20½ *arpents*, and is, I may say, faultless:

Potatoes.....	9 arpents.
Swedes.....	5½ "
Carrots.....	3½ "
Mangels.....	2 "
Yellow turnips.....	0½ "
	20½

The whole had been horse-hoed 3 times, the swedes and mangels singled at ten and the carrots at six inches apart, and the headlands sown in *good tilth* with white turnips. In "round numbers," not a weed to be seen; the plant absolutely perfect, and the pulverisation of the soil down to the depth of the plough-furrow complete. And this perfect cultivation of the root-crop makes it the more difficult to understand the faulty treatment of the grain-crop spoken of above.

Three acres of the swedes, in addition to a half dressing of dung, received 200 lbs., each, of a mixture of manures sent me by the Dominion Fertiliser and Casing works, Hamilton, Ont. By the bye, what are "Casing Works"? The swedes treated with this manure were, I fancied, a little in advance of the others, but M. Guèvremont will send me a full account, after the root-harvest, of the comparative growth and subsequent yield of the whole piece, which I shall publish in justice to the manufacturers, as well as for the information of my readers.

Lastly, the cows of my good friends had next to nothing to eat! They were in a *pacage* at the upper end of the farm, eating brush I suppose, for there was, so to speak, no grass, and no provision of green-corn, or of my favourite mixture of tares, oats, pease, and rape, had been made for them. Conse-

quently, very little milk was derived from the nine cows, indeed, so little that it was hardly worth going  $1\frac{1}{2}$  mile twice a day to milk them. This serious omission will, I am sure, be corrected by next season, for I did not fail to impress upon the farmer's mind how surprised I was at his neglect, the consequence of which will be that, the moment his hay is carried, he will be obliged, as he confesses, to turn his cows into his timothy, to the great injury of the future crops of that grass.

No clover sown on M. Guévremont's land, as pure timothy sells better in the Sorol market, which is only 300 yards from the barns.

The cows are of the usual small mixed breeds, but I was happy to see one female descendant of my Guernsey bull, Rufus, out of a Canadian cow—at least, a country cow of some sort, but a good milker—which heifer is distinctly, both in colour and form, an instance of the great impressive power of her grandsire. Fancy the services of such a bull, at a dollar a cow, being absolutely neglected, and his being converted into meat at four years old.

The neighbourhood of Sorol has certainly benefited by the example of the M. Guévremont, particularly in the points of horse-hoeing and better general cultivation. I do not exaggerate when I say that, as regards hoed-crops in general, there are at least twenty times as many acres sown, as there were in 1884 when I went to live in that place.

But the most satisfactory point, after all, is that M. Séraphin Guévremont tells me that this farm quite answers his expectations as regards profit; and as he, like myself, is a man of rather sanguine temperament, his investment must be paying well.

*Crops in the Province of Quebec.*—Oats will not be so bad a crop as I expected them to be a month ago, but they cannot be good. Barley, good in quality and fair in yield. Hay, an average, but a good deal of it injured by rain, and, still more, by being allowed to stand too long. With an American duty of 30 cts a bushel on barley and \$4 a ton on hay, I fear two great sources of revenue to our farmers will be cut off, and, as far as my observation goes, they are not in a position to bear it. Dr Ross's reiterated advice will be found to be well-founded: Don't put all your eggs into the same basket. Weather awful August 27th.

*Onion grub.*—Mr. Thomas Dawes' onions were terribly injured by the grub this spring. Mr. Smith, his gardener, after trying several remedies, tells me he found this mixture the most effectual:

4 oz. hellebore;  
6 oz. soot;  
8 oz. slaked lime;

The whole to be finely pulverised, mixed with 5 gallons of water, and sprayed over the piece infested.

*Melons.*—The same Mr. Smith gave me an account of his first 32 melons: they averaged  $8\frac{1}{2}$  lbs. each, and the best 3 weighed 45 lbs. The whole of the main crop was ripe, and eaten, before the end of July.

*Sun-flowers.*—Two of my Giant-sunflower plants, each about 7 feet high, suddenly wilted away this week. On cutting the stems about four feet from the ground, I found that small grubs had penetrated from the root upwards the whole length of the stem, for what object I know not.

*A word for the dog.*—This is the heading of a letter to my friend Dr Hoskins the editor of the Vermont Watchman, and

consisted of two pleas: The dog kills woodchucks which damage clover-crops, and is useful to the farmer in bringing his cows home at milking time.

Very true and satisfactory doubtless, but the dog that attends to his business does not kill sheep.

The following from the *Amherst (Mass.) Record*, will show how farmers in that state are made to suffer from the dog-pest: "Sheep-raisers at South Deerfield have been having their annual racket with dogs, and some of the finest flocks in town have been all destroyed. In the name of common sense has not the time arrived for making and enforcing laws that shall make these ravages impossible? New England is cursed with dogs. They destroy thousands of dollars' worth of property every year, and deter thousands of people from engaging in what was once a leading New England industry. They are a constant menace to human life and an insufferable nuisance."

*Corn-stubble.*—"We note that Mr. Jenner Fust thinks corn stubble a great nuisance, as it makes rough work and a great deal of trouble to fit the field for a root crop the next season. Try planting potatoes after corn, Brother Fust, plowing the stubble well under. Those rough stumps of corn make just the food for the potato to flourish on. If you dig them yourself, you will notice that every hill in which there is a bunch of corn stubble will have the biggest and nicest potatoes. The next year the land will be all right for your turnips and mangels."

True enough, dear Dr. Hoskins, but it happens that we cannot afford here to grow three hoed crops—silage corn, potatoes, and roots—in succession. In our system, corn should be a cleansing crop, horse- and hand-hoed, to be followed by oats or barley, and the grain-drill would find itself just as much impeded by the roots of the previous corn-crops in grain-sowing, as the turnip-drill of which I spoke in the passage referred to.

*Sheep again.*—Thanks, Dr. Hoskins, for the compliment in the annexed extract from your paper. I was a pretty extensive stockman once upon a time; whether an intelligent one or not, is another story; but of one thing I am, and have been for many years, convinced: nothing but a regular and well managed system of sheep-feeding on crops grown expressly for them, will ever restore the worn-out lands of this province to their pristine fecundity. Men like my friend Séraphin Guévremont who can buy six or seven hundred loads of dung at their very doors for ten cents a load, may be able to work their farms without sheep; but it is not everybody who lives close to a city like Sorol, with its seven-thousand inhabitants!

*Editorial Notings.*—That intelligent stockman, Editor Jenner Fust of the *Montreal Journal of Agriculture*, referring to the dog plague in New England, says: "A pretty state of things, that a man can not keep sheep on account of the dogs! No wonder the Vermont farms are for sale by the thousand at low prices." That is just the size of it, Brother Fust; and yet the majority of our voters and of our legislature are farmers, and could profitably keep sheep if it were not for dogs. The only hope, however, is in some of our lawyers or business men in the legislature taking the matter up. As for the farmers, the only thing they seem to think about is low taxes, which means poor schools, to turn out a new generation of the same ways of thinking, and poor roads for them to ride over.

*Ten's manure.*—I remember a former contributor to this Journal being very angry with me for contradicting an assertion, in one of the U. S. agricultural papers, that fowl-manure



was worth as much, pound by pound, as Peruvian guano. According to a recent report of the New York Experiment Station the average value of bon manure, per fowl, is about twelve cents a year. Pure and dry it is worth, as compared with fertilizers, about \$12 per ton. In this form it has about two per cent each of ammonia and phosphoric acid, and one per cent of pot-ash.

Now my opponent knew nothing about the percentages of ammonia and phosphoric acid, but he says: "It is known to be rich in ammonia, and it is the general practice to reduce its strength before applying it, as otherwise it destroys the tender germs of sprouting plants. &c. &c. Our farmers and gardeners are willing to pay \$20 a ton for it &c. &c. &c. The writer has sometimes a surplus, and finds no difficulty in disposing of it at current prices". v. *Journal of Agriculture* Sept. 1890, p. 75. In the same number, I quoted the opinion of Professor Anderson, then chemist to the Highland Agricultural Society: "The three kinds of poultry-dung, hen's, geese's and duck's, hardly if at all, exceed farm-yard manure in value." When thoroughly dry and free from earth or other matters, a difficult point to arrive at, I have no doubt the New York experiment-station is correct in its valuation.

I remember seeing an account of one experiment tried in the States with poultry-dung, in which 5 tons were applied to the acre for potatoes, and I noticed it in this periodical, but I cannot lay my hand on the article. At all events, we may say with accuracy that 5 tons of poultry-manure, were it to contain 2% of ammonia = 200 lbs, would be rather more than twice the quantity I should like to apply to any crop, and certainly more than would be equivalent to a dressing of 12 gross cwt. of the Peruvian guano of 1848. In fact, from it I should except gigantic tops and no tubers.

*A complaint about birds.*—The English sparrow is nullifying the efforts to ascertain the comparative yields of the small grains at the experiment stations—and the blackbirds and crows do the same for the corn and peas.

Yes, and the ornithophilists, if I may be allowed to coin a word, will at last find out that the impudent little scamps had much better have been left at home, where, by the bye, the farmers are doing their best to thin their numbers. Blackbirds, properly *starlings*, nearly ruined an early piece of oats of mine in 1884, and the verdict of my neighbours was: serve him right for sowing before we did!

*Potato-planting.*—Dr Hoskins says that "shallow planting seems to do best for the potato. Our tools should not be made to heap the earth over the row."

Would he not use the double mould board plough to split the drills and thereby cover both dung and tuber? This might be done by the harrow; but, after all, the raised drills, in all well managed potato fields, are levelled with the chain harrows before the young plants show themselves, so it comes to about the same thing in the long run, and, perhaps the latter plan gives extra cultivation and aeration to the land; more important matters than most people here seem to consider them.

#### A few Hints on Vegetable-growing. (Continued.)

*Radishes.*—*In tenui labor*; though radishes are not very large, they are worth growing perfectly, if they are grown at all. Rough land, in poor condition, will produce radishes, but when they are gathered you won't be able to eat them. To grow this plant properly three things are necessary: finely pulverised soil, lots of rotten dung, and plenty of water. And first of frame-grown radishes: About the middle of March, make a slight hotbed with half the height of manure you

would use for the growth of cucumbers, &c., and on it place 7 or 8 inches of fine, rich earth. When the heat has come down to about 85° F., sow the seed thinly, in rows at, say, 6 inches apart, and put on the lights. When the young plants appear, give as much air as the weather will permit, and thin out where the radishes are too thick, for the chief cause of failure in growing this crop is allowing too many radishes to stand in hopes of having more than can really be produced satisfactorily. It is just the same with forcing early horn carrots; last spring, 1889, a fine frame of both these plants, in Mr. Thomas Dawes' garden, was ruined by being left too thick and kept too close. Water frequently, but don't keep the earth wet. In all cases, the long radishes are the best for early sowings, and the turnip- and oval-shaped for late work.

As soon as the land can be worked in the spring, sow succession-crops of radishes in the warmest corners you can find, and to forward this crop, prepare the land as follows: In the fall, dig in lots of rich, rotten dung, taking care to turn over the ground—with the spade not the fork—in as large lumps as possible: don't break the lumps, but let them lie up as high, as distinct, and as rough as possible. When about to sow, rake down the land and make it as fine as you can, but don't dig it: the seed will go in on the stale, frost-pulverised surface a week earlier than if it were turned over in the usual way. The seed should be sown in rows about 8 inches apart, which will admit of the use of a 4-inch hoe. Hoe frequently, and water profusely. The crop will be off in time for the second succession-crop of peas. Bone-dust, raked in, is the best top-dressing for this plant.

Radishes, if they are held in great favour in your family, may be sown between the rows of the first sowing of peas, or between rows of any sort of plants, provided the land be clean; otherwise it would be injudicious to grow a double crop of this sort, as the practice must, more or less, hinder the proper hoeing of the more important crop.

The Black-Spanish radish I do not care for, but some people like it for winter consumption. It should be sown in June, and the roots stored in sand in the cellar. The core of this radish is hot and strong, and, I think, uneatable, but the flesh next the rind is milder, though, at best, not worth much. Endive, beet-root, celery, and the firm, white hearts of a well-grown St. Denis cabbage, make the best winter salads.

*Rhubarb.*—Forty years ago, such a thing as a rhubarb-tart was almost unknown to the French table. Since that time, it has been brought into use, and plenty of it is grown in many gardens in France. Eighty-five years ago, Myatt, a market-gardener at New-Cross, near London, took the first bundle of rhubarb into Covent-garden market that had ever been seen there, and finding no purchaser, had to take it home again. The people thought it was physic! When I last saw Myatt's garden, in or about 1850, he had sixty five acres under this crop, and I still see his "Victoria rhubarb" quoted in the seedsmen's catalogues.

If you will really take the trouble to grow this plant as it deserves to be grown, and will follow the rules observed by the best gardeners, you will find the flavour of the stalks very different from the acid, wretched stuff too often brought for sale to our markets. Heaps of dung, a sheltered but not tree-shaded spot, and double-extra deep cultivation, are absolutely necessary.

At starting, get selected roots of the best named varieties, such as Myatt's Victoria or Lionæus, for main crops, and Dancer's Early Scarlet, or Royal Albert, for early ones. The land should be trenched three spits deep, and plenty of rotten dung buried below the last and again below the first spit; in

fact, I should prefer turning out a trench 30 inches deep, keeping the upper ten inches on one side by itself, returning the earth by degrees, and mixing in the dung with it as it fell. The trench should be 3 to 4 feet wide. Plant with the top bud two inches beneath the surface, tread in moderately firm, rake the ground over thoroughly, and the job is done for a dozen years.

Don't gather a single stalk the first season, and in subsequent years deal very moderately with the plants; for every leaf removed weakens the stock, and if you keep on gathering the plant will have no time to recover and regain its productive power for the next season. It is just the same as with asparagus; many plantations of both these delicious vegetables never produce half such a yield as one might expect, because their owners will keep cutting after their proper season has expired.

Any one whose house is heated by a furnace of any sort can supply his table with forced rhubarb at a very trifling ex-

pense. Pack the roots in boxes with moss, light soil, or even rough litter, and keep them from the light. In the light, the colour would be more brilliant, of course, but the flavour is better if the light is excluded.

In heavy clay soils, the trenches for rhubarb should be filled with a mixture of soft-coal ashes, sand, &c., turned up with the land thrown out, and the large, coarse sorts are the most suitable for planting. I need hardly say that as soon as, or even before the snow is gone, flour-barrels set over the rhubarb will induce an early growth of well-flavoured, though necessarily pale stalks.

**Salsify.**—Like parsnips and broad-beans, some people are very fond of salsify, and others dislike its flavour. Perhaps, the latter opinion may be partly owing to the cook's fault, for this root requires peculiar treatment in the kitchen. Salsify should be first scraped, then steeped in water containing a little vinegar or lemon juice, then boiled and eaten with melted butter or *maitre d'hôtel* sauce, made with the addition of lemon-juice and finely chopped boiled parsley to the common white sauce. The roots boiled, allowed to get cold, cut into slices, sprinkled with salt and pepper, or egg-and-bread-crumbed, and fried, what the cooks call "a beautiful brown," are not to be despised.

To grow salsify properly, the seed should be sown in land that has borne a previous heavily manured crop; at all events, if manure must be used for this root it should be trenched in, as, like parsnips, carrots, and all long roots, it is impatient of contact with dung, which makes them fork. For the same reason, the stirring of the soil between the rows should be superficial.

Good deep loam, rather sandy than otherwise is, as with

other roots, the best soil for this crop. It should be deeply dug, the seed sown in rows about 15 inches apart, and the plants when up singled to from 7 to 10 inches. Salsify will stand our winters, on dry lands, as well as parsnips, and the tops shooting in the spring may be used for the table: cook them like asparagus, after cutting them 5 to 6 inches from the crown of the plant.

**Scorzonera** or **salsifs noir**—black salsify—as the French call it, is to be grown and cooked as recommended for the other salsify. The word is clearly derived from the Italian, *scorzona*, a snake, and the wild kind is still sometimes called in England *snakeweed*.

Both these plants should be sown as early as possible.

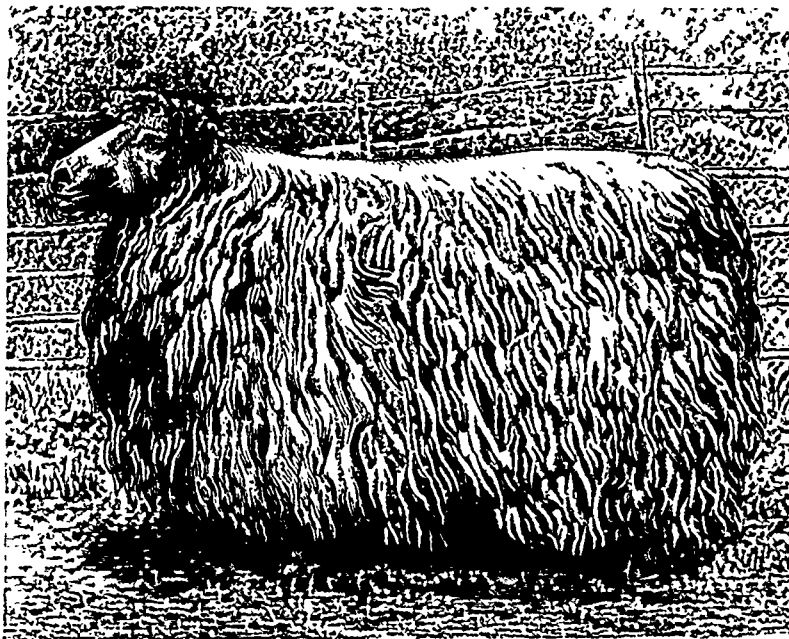
**Sea-kale.**—Though we grow heaps of this delicious vegetable in our garden in England, I never either grew it or saw it grown in this climate, and therefore shall say nothing about it, except that ours used to be covered with large pots,

made on purpose, with movable tops, and the whole ground occupied covered in the autumn at least a foot deep with leaves. I have no doubt many of the swell gardeners in Montreal grow sea-kale, but I never happen to have come across a bed of it.

**Shallots**, properly eschalots, (from Ascalon) are to be planted either in the month of August, to stand the winter, or in early spring. Make the ground rich and tread it firm as for onions, and only just set the bulbs deep enough to keep them steady. Like all the tribe, except leeks, the bulbs should not

be earthed up; in fact, drawing the earth away from them will be useful in the fall, as hastening their ripening.

**Spinach.**—I had the best spinach this summer I have tasted since I have been my own gardener: this is how it was grown. The land was bastard-trenched 18 inches deep in the fall of 1889, a heavy dressing of rotten dung being buried below the top-spit. By bastard-trenching I mean throwing the top-spit back, leaving an open space, ten inches deep, the bottom of which is to be broken up by the fork as deep as that implement will go, and the dung placed on the top of this lower moved ground before the top-spit is returned. To do this perfectly requires care, and my plan is to clear off a space 3 feet long by the width of the bed, whatever that may be, and wheel the stuff to the hinder end of the piece to be operated upon to fill up the last 3 feet of opened trench when the work is accomplished. The second space of 3 feet will of course fill up the first open trench, the third fill up the second; and so weiter. This is far better and easier than throwing each spade-ful just behind you, and will be a great saving of time, besides securing perfect accuracy of work, a



A LINCOLN LONG-WOOL RAM.

feature, I regret to say, very much neglected by our ordinary workmen.

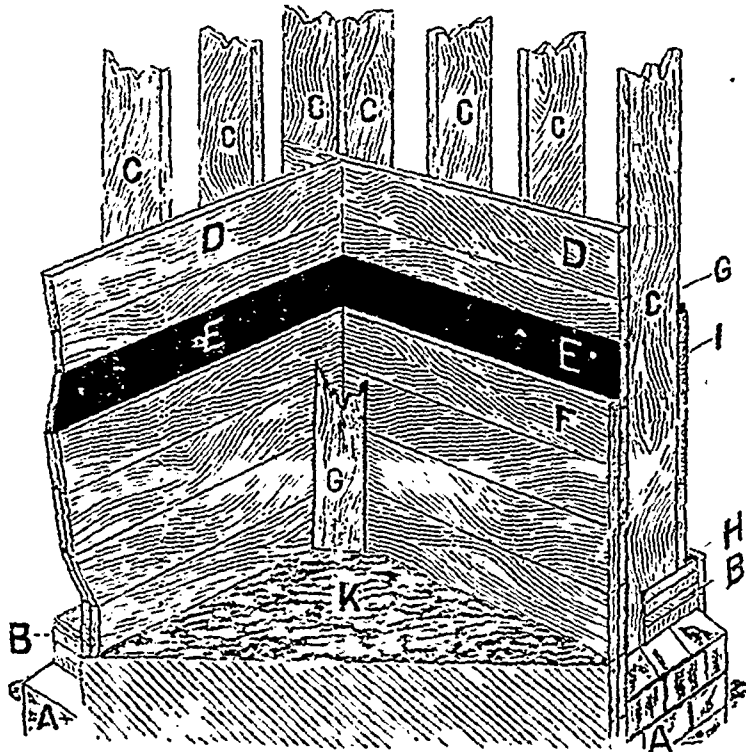
But to proceed: the surface of the trenched ground was manured with the contents of the earth-closet, the seed sown thinly on April 19th, in rows 15 inches apart, and the plants, up May 5th, thinned to 8 inches in the rows. Hoed three times, as deep as the tool would go, and the gathering began June 1st. Anything more tender and succulent it would be hard to find.

As the summer-heat increases, spinach gets inclined to run up to seed. To obviate this inconvenient tendency, sow every ten days, remembering that the poorer the soil, the more is the inclination of this plant to "bolt," as gardeners call it.

Winter spinach should be sown in August, and not so thinly as I advised for the spring crop, because some plants will be killed, and if thick-sown, there will be more chance of its arresting the early snows to act as a covering. Thin as soon as the land will bear the foot in the spring.

Spinach soup, flavoured with celery and a trifling dash of lemon-juice is good. Boiled, and thoroughly drained, then chopped and warmed up with strong stock, with lightly dressed porched eggs on the top, it is delicious; though, when I sent a dish of it to my late friend M. Groulx, prothonotary of Joliette, he told me that "he ate the eggs, but sent the spinach to son propre père, le diable."

FIG. I.



A, Foundation wall; B, Sills; C, Studs, (2 inch x 10 inch or 2 inch x 12 inch, not more than 2 feet apart); D, Lining of inch-lumber dressed on one side; E, Sheeting of tar-paper; F, Lining of inch-lumber dressed on one side; G, Tar-paper; I, Outside siding; H, Strip nailed behind heel of studs; J, 1 inch board, 10 inches wide, across the inside corner of the silo and filled behind with sawdust; K, Cut straw on the floor of the silo.

DAIRY BULLETIN; No. 4.

FODDER-CORN AND THE SILO.

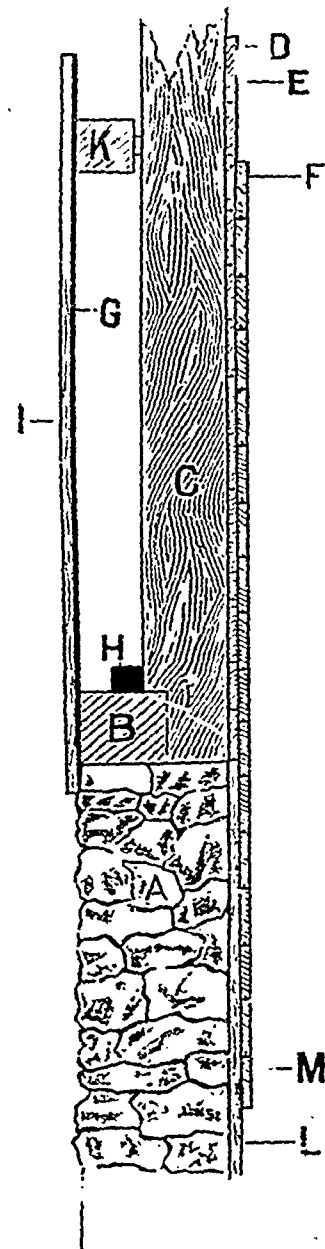
This is one of the monthly bulletins issued by the Dairy-commissioner, Prof. Robertson, of the Ottawa Experiment farm. Without containing anything positively new, it serves up, in a condensed form, the general principles that guide the more advanced farmers of North America in the growth

and preparation of winter food for the cattle, describing more particularly the cultivation and subsequent ensiling of the maize plant. The illustrated article on "Building a Silo" will be found interesting.

BUILDING A SILO.

If a silo be erected as a separate structure, its foundation may be a low stone or concrete wall, or durable sills treated with tar, or charred to prevent decay from contact with the

FIG. II.



A, Stone wall of barn; B, Sill; C, Stud of inch-lumber dressed on one side; E, Sheeting of tar-paper; F, Lining of inch-lumber dressed on one side; G, Tar-paper behind the heel of the studs; H, Strip nailed behind the heel of studs; I, 1 inch board, 10 inches wide, across the inside corner of the silo and filled behind with sawdust; K, Cut straw on the floor of the silo.

soil. An earth floor will be cheapest and best. The immediate surroundings of the silo should be well drained; to prevent the entrance of water to its floor. The following cuts have been prepared to illustrate the method of construction.

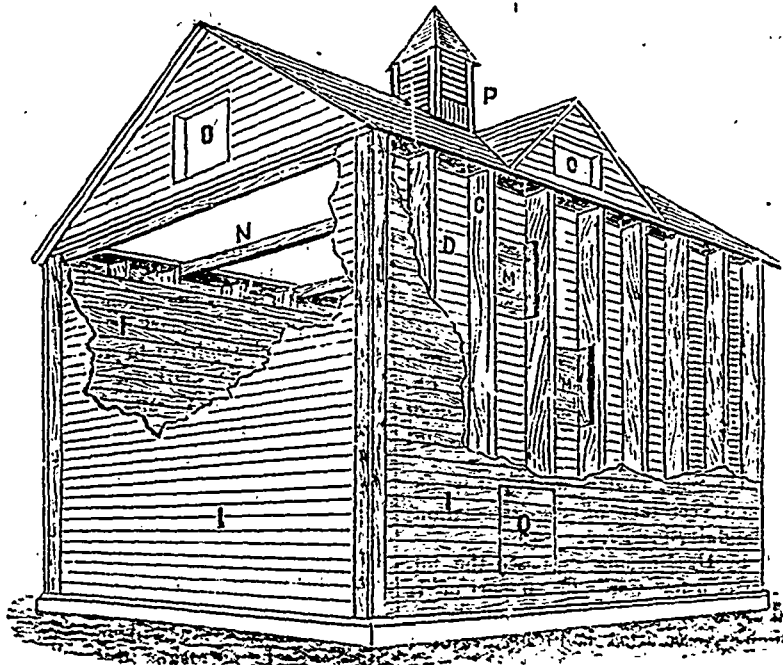
Figure I. represents a section of an outside silo to be erected as separate building.

Figure II. represents a section of an inside silo to be constructed inside a "bank barn."

Figure III. represents a simple method of constructing a door in silo.

sented its report, couched in the following terms: We recommend that the delegates sent by the agricultural societies of districts which have no dairymen's association, either local or provincial, be admitted as members of the Dairy-

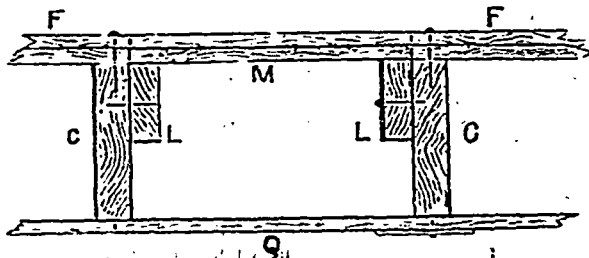
FIG. III.



C, C, Studs; F, M, The two thicknesses of lumber with tar-paper between, on the inside of the silo, to be sawn through flush with the side of the studs; L, L, Cleats to be nailed on to the side of the studs; Q, Outside door in sections of 3 or 4 feet and on hinges.

Figure IV. represents an outside silo, erected as a separate building.

FIG. IV.



C, Studs; D, Lining on the studs; F, Inside lining of the silo; L, Outside siding; M, Boards of the door to be taken off as the silo is emptied; N, Cross-ties, to strengthen the building; Q, Opening for the filling of the silo; P, Ventilator; Q, One of the outside doors, on hinges.

To preserve the inside lumber, it should receive a coating of crude petroleum, which is much easier of application than coal tar, and seems to leave the ensilage in immediate contact with it in a good condition.

Ottawa Meeting of the Dominion Dairymen's Association. (Continued)

THIRD DAY.

MORNING SESSION.

The President took the chair at 10 o'clock. The committee on organisation and the admission of members pre-

men's Association of the Dominion of Canada.

We moreover recommend that the president of the Dominion Dairymen's Association and the Commissioner of Dairy-industry for the said Dominion, form a committee to draw up the constitution of the said association, which constitution shall be submitted for approval to the next meeting of the society.

This report was unanimously approved.

The committee for the selection of the members and officers of the executive committee of the association, submitted its report for the approval of the convention.

This report having been read, and a few trivial alterations made, by the convention, was eventually adopted as follows:

OFFICERS.

President.—Mr. D. McPherson, Lancaster, Glengary county, Ont., reelected.

Vice-president.—All the active presidents of the different dairy-associations of the different provinces of the Dominion. (Ex officio, in accordance with the rules of the association.)

Secretary.—M. J. C. Chapais, St. Denis, Kamouraska county, Q., reelected.

Treasury.—Mr. H. S. Foster, Knowlton, Brome county, Q., reelected.

Members of the Executive Committee.

ONTARIO.

Mr. Bissell, Algonquin, Grenville county, S. R.

" Haggarty, W. Huntingdon, Hastings county, N. R.

" Pearce, London, London county.

## QUEBEC.

Mr. McCallum, Danville, Richmond county.  
" Taché, Quebec, Quebec county.

## NEW BRUNSWICK.

Mr. Peters, Queenstown, King's county.

## NOVA SCOTIA.

Mr. Black, Falmouth, Hampshire.

## PRINCE EDWARD'S ISLAND.

Mr. Hamilton, New Perth, King's county.

## MANITOBA.

Mr. Struthers, Russell county?

## N. W. TERRITORIES.

Mr. Thorburn, Broadview, Assiniboia county.

After a few words of thanks for their reelection from Messrs. McPherson, Foster, and Chapais, the president obtained the ratification by the meeting of the nomination of the finance committee, which had been entrusted to him, and which he had formed as follows:

Messrs. D. McPherson, Chapais, Foster, and Robertson, the President, treasurer, and secretary of the association, with the commissioner of the dairy-industry.

Mr. S. Fisher, seconded by Dr. Sproule, proposed the following resolution, which, after a few words in support of it from Messrs. Roberts and Ayer, was carried unanimously:

The Dominion Dairymen's Association is highly gratified at the appointment, by the federal government, of Professor Robertson as Commissioner of Dairy-industry for the Dominion of Canada.

At this point, the president read a telegram, from Mr. W. H. Lynch, expressing his regret at not being able to be present at the meeting, and wishing it complete success.

In reply to this telegram, Mr. Foster, seconded by Dr. Sproule, proposed the following resolution, which was carried unanimously:

The Dominion Dairymen's Association votes its thanks to Mr. W. H. Lynch for the indefatigable way in which he has always promoted the interests of this society.

Mr. Jas. Haggarty, with the president's permission, requested professor Robertson to lay before the association certain information in detail on the mode of making silage, and on the plants best suited to the purpose. The professor, in familiar terms, treated concisely the whole subject of ensilage in the clearest possible manner.

The president then said that the next address on the programme was one by Mr. Ballantyne, of Stratford, Ont., on: "Markets, and the sale of products therein." He regretted to say that Mr. Ballantyne was unable to be present, (1) and begged Mr. Robertson to supply what was, in consequence, wanting, by saying a few words to the meeting on these most important subjects.

Mr. Robertson, willingly consented. He thanked the meeting for the kind manner in which they had received his appointment as Dairy-Commissioner, and he promised to do his best not to falsify the favourable opinion they had formed of him. He was rather unprepared to address them on the subject of markets for our dairy products; still he would make some practical suggestions: Our natural market is England, a rather difficult market to satisfy. The English

(1) *Répondre à ses travaux*=To maintain his thesis=to read his paper, in plain English.

A. R. J. F.

are epicures, and want the best cheese on their table at every meal. Good articles induce lavish consumption. Uniformity in our goods must be studied: uniformity in quality, in appearance, in form or shape, and in package. He repeated it: quality makes the demand. All is condensed in this sentence: make butter and cheese of the finest quality, and let this quality be the rule throughout the range of the factories of the Dominion. Pack these goods in the best manner possible, and when this has been accomplished, there is no fear of too profuse production. We shall always find a market for all we make.

Mr. A. A. Ayer, butter and cheese-merchant, of Montreal, having engaged to treat the above subject, was then invited by the president to address the meeting. He said that, before entering upon his address, he had to lay before the meeting a message which the Montreal Chamber of Commerce had entrusted to him. The Chamber offered to the Dominion Dairymen's Association all that lay in its power to aid the society in the accomplishment of its work.

The question of markets had been treated. The exporters was necessarily obliged to watch for any new requirements on the part of the markets. To-day, they sought for large cheeses; not too dry—and richer in butter fat than those made heretofore. The cheese-boxes, too, ought to be better made. The boxes from Quebec were generally abominable. They should fit the cheese accurately, and be kept neat and tidy, to which end, they should never be sent out in wet weather, or in dirty vehicles, lest they be thereby made filthy. The cars in which they are carried should be well aerated. So much for cheese. - (To be continued)

*U. S. Crops.*—As will be seen below, the crops in the States are by no means in a promising condition. It is the reverse in England, where harvest has begun, and with very good prospects of a yield. Wheat and barley, there, have been a little damaged by storms, but roots, grass, pease, beans, and oats, are all superb. Good white wheat is worth, in the country-markets, nearly 44s. a quarter = \$1.32 a bushel! August 12th. (1)

*The Crops.*—Washington, Aug. 9.—There is a reduction in the condition of all cereals as reported by the statistician of the Department of Agriculture. The decline from July 1st to August 1st is from 92.1 to 73.3 in corn; from 94.4 to 83.2 in spring wheat; from 81.6 to 70.1 in oats; from 88.3 to 82.8 in barley. Condition of buckwheat is 90.1, and of spring rye 86.8. Condition of Irish potatoes is reduced from 91.7 to 77.4.

*Crops in U. S.*—They certainly are prompt in their proceedings in the States. The August report on the state of the crops in that country, dated 11th August, reached me on the 20th, and reads as follows:

*Corn.*—July 93.1; August 73.3: a fall of 20 points in less than 30 days! The States that fall below the general average are, unfortunately, the 9 great producing ones: Arkansas, Tennessee, Kentucky, Ohio, Indiana, Illinois, Missouri, Kansas, and Nebraska: these usually represent more than half the yield of the whole crop of the United States.

"Since the middle of July, the season has been as much too dry as it was previously too wet."

*Spring-wheat.*—This has fallen 11 points in the month.

*Oats.*—Very bad crop, due on the Atlantic coast to wet

(1) Potatoes in the States are a complete failure, except in New-England. Oats and corn very poor. Four hundred and fifty correspondents of the London Times give England's average wheat-crop as 28½ bushels an acre. All other crops are good, though much hay was damaged in the wet month of July.

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spring and late planting, as it was with us. June 89.8 points, July 81.6, August 70.1, "which is the lowest condition ever recorded in these reports."

**Barley.**—82.8 points—greatly injured by drought in the N.-W. States, and in Kansas.

**Cotton.**—The average number of points for this crop in the eleven producing States is 91.1—so we shall have plenty of cotton-seed cake to make up for the loss of corn and oats.

**Potatoes.**—"The consolidated county returns of our correspondents make the August condition of the potatoes the lowest ever reported. The average condition for the crop of the whole country has fallen off 14.3 points during the month, and new stands at 77.4. Such a decline in one month is unprecedented, and illustrates the disaster which has overtaken the crop over a large district. The only approach to the present depressed prospect was in 1887, when the average declined from 93.2 in July to 80.8 in August and 61.5 at time of harvest, the average yield per acre being only about 57 bushels."

One thing is certain, and in view of this terrible state of things among our neighbours: we are pretty nearly sure of a plentiful aftermath. Those who have a second-cut of clover would do well to ensile it, if they have the means, if not, it should be made into hay at once, for all kinds of imported cattle food must be dear this winter. There are already great complaints of the potato crop in Ireland, and both corn, oats, and, in fact, all grains and pulse, are rapidly rising in the English market, which must, sooner or later, tell on ours.

**Price of cheese.**—Surely, there must be some mistake in the quotations of the cheese-market! Eight and a-half cents is given as the highest price in the Montreal market, and yet a Montreal grocer charged me twenty cents a pound for a very moderate cheese on the 18th of August. The cheese, he said, was Canadian Cheddar. I am not much acquainted with the grocery business, but it seems to me that with a profit of 150%, the trade should be a highly remunerative one.

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SEASONABLE NOT. S.

CUTTING OATS GREEN.

In the spring attention was called in this column to the advisability of cutting oats green which are intended for home consumption. Now that harvest is approaching it may be useful to once more ventilate this idea, which cannot claim to be entirely a novel one. The cutting of oats and beans before they are ripe has long been practised, as, for example, by the late Mr. Mechi, who advocated the system. Since ensilage has been a prominent method of storing green fodder, the system of cutting oats green and placing them in silos has also been advocated, especially by Mr. Eckroyd. The plan is, therefore, not an original novelty by any means, and this is in itself some recommendation, because it does not come before us as a mere fancy.

The principle upon which the cutting of oats green is based is that after corn of any kind has bloomed, it no longer takes nourishment from the soil or air but only from itself. Starch, albuminoids, fat, &c., have accumulated in the stems, leaves, and roots, and at this particular stage of growth a migration or shifting of component parts begins to take place, and the nutrient properties of the plant concentrate themselves in the seed. Etiolation, or blanching of the stem and leaves, takes place, and the "blood" flows to the head. There is no increase of weight, but rather the reverse, as water is evaporated. There is no increase of nutrient matter, but only a concentration of them in the grain. If this teach-

ing, which is now inculcated by chemists and physiologists, is correct, we may well ask why we should allow the repairing process to go on? It certainly, at first sight, seems a little rash to cut a fine crop of oats when quite green, but if the above principles are to be relied upon it might just as well be out then as later. We believe in the theory just propounded. We do not think that wheat, barley, or oats, are ever of greater nutritive value as stock foods than after, say, the grain is half-formed. In the case of barley or wheat, the money value is much increased during ripening, but in oats intended for horse keep it is not probable that the money value is increased by ripening. Every farmer knows that oat straw is at its best before it is ripe, and all we ask is to extend this principle just a little further and cut them green. We should then advise drying them in the air, and stacking them with a view to cutting them up with chaff for horses, cows, and other live stock.

THE ADVANTAGES OF THIS METHOD

are very considerable and may be summed up as follows:—First, harvest operations would be simplified, as pressure of work would be relieved at a very busy season. Secondly, the land would be cleared early, and a better opportunity would be secured for cleaning the ground and at once getting in trifolium, early vetches, or other fodder crops; or even of sowing stubble turnips. Thirdly, the weeds would not be allowed to seed; as thistle, docks, and charlock run riot during the ripening of a crop, and tower above the heads of the corn in a manner which is exceedingly provoking to witness. Fourth, a crop cut in this manner will be more easily secured, and be less exposed to such risks as blowing out, or damage from wet. These are very solid advantages, which might be well set against any fancied, or real, increase in value from ripening.

EXTENDING THE PRINCIPLE.

If the above reasoning is accepted, it is not difficult to push the same principle a little further. Where a large head of stock is maintained, it is desirable to consume as much of the crops at home as possible. Buying cake is just as expensive as growing fodder, and the condition of a farm is better kept up when a small proportion of grain finds its way to market. We, therefore, have for long advocated lowering the corn area, and confining it to land in high condition capable of yielding really remunerative crops.

Again, if an oat or barley crop is to be grown for home consumption, it is converted into beef, mutton, wool, and milk, and it certainly would seem good policy to grow crops capable of making the largest amount of these saleable commodities, and not to restrict ourselves to grain. We think that a good piece of mangel or of swedes after turnips is just as profitable as straw crops intended for home use. If not, we would ask why not? In neither case is the crop to be directly realised, but indirectly as already indicated. The crop which would yield the most beef, mutton, milk, &c., is the best for the purpose, and the expense of growing roots after roots is not greater than that of growing oats after roots. They might be placed side by side as follows:—

EXPENSE OF GROWING SWEDES AFTER TURNIPS.		EXPENSE OF GROWING OATS AFTER TURNIPS.	
	£ s. d.		£ s. d.
1 plough.....	0 10 0	1 plough.....	0 10 0
4 drags.....	0 4 0	4 drags.....	0 4 0
2 harrows.....	0 1 0	2 harrows.....	0 1 0
Drilling.....	0 2 0	Drilling.....	0 2 0
3 lbs. of seed at 8d.....	0 2 0	3 bushels of seed at 2s.6d.....	0 7 0
2 cwt. superphosphate...	0 6 0	Rolling and harrowing...	0 2 0
3 horse-hoings.....	0 3 0	Harvesting.....	0 15 0
2 hand-hoings.....	0 9 0	Thrashing and marketing.....	0 7 0
	£1 17 0		£2 9 0

Rent, rates, and taxes would be the same in both cases. Farmyard manure would scarcely be needed for either crop so grown. No cost is allowed for getting up, carting, or storing the roots, because they may be supposed to be eaten upon the land by sheep. The results might be similarly compared as follows:—

VALUE OF THE SWEDS CROP		VALUE OF THE OAT CROP	
	£ s. d.		£ s. d.
18 tons of swedes at a consuming value of 7s. 6d per ton.....	6 15 0	50 bushels of oats at 2s. and 1½ tons of oat straw at 10s. a ton, feeding value.....	5 13 6

Further, we maintain that the land as left by the swedes eaten off would be ready to grow ten sacks of good wheat per acre, whereas the land as left by the oats would not be in a condition to grow more than six sacks of wheat to the acre. We do not object to these figures being recast by any fair critic, but we think he would find it difficult to reverse our result or to show that a corn crop is more profitable than a root crop.

#### TIME FOR CUTTING GRAIN-CROPS.

As soon as wheat is well filled it is time to cut. There is no advantage in allowing the crop to stand till it is goose-necked, and the straw is so brittle that it will scarcely make bands. While the straw is still slightly green and supple, and when the corn is as soft as fresh curd, it should be cut. (1) The ripening will proceed in the shock and the grain will harden and fill from the straw. Early cutting is in all respects better than waiting for the corn to become dead ripe. A better sample is secured and work is expedited. All the advantages are, in fact, upon the side of early cutting, and there are no drawbacks unless, indeed, our advice is carried beyond reason. We could not, as many have done, recommend cutting wheat "green." Such advice is misleading, but what we say is out before all the green has disappeared, and while the grain is still soft and pasty.

#### BARLEY.

If intended for malting, barley should be allowed to become thoroughly, or dead ripe. (2) If, however, through an unfortunate season or for any other reason, there is no chance of securing a malting sample, or a better price than for feeding, we think the same advice might be followed as is given above for oats, and that such barley might as well be cut before it is fully ripe. This season much barley is laid and twisted. It is often now on the ground, and green blades are rising up among the ripening barley, soon to develop those green ears which spoil the samples and make the field green a second time. What can be the advantage of letting such crops stand longer? Of course everyone must judge for himself, for such a condition of things may only be partial over a field. Where general, we are disposed to think that the best plan will be to secure the crops as it is for feeding purposes as soon as possible, and not to wait for a condition of ripeness which is only valuable to maltsters.

In late districts the question will not arise for some time, but in the earlier districts it is not too soon to take into consideration the best way to deal with badly laid crops of barley, which are evidently going back, and in many cases acting

(1) In 1853, I had a bet that I would sell the first lot of wheat on the London market of Mark Lane. I won my bet, and the sample fetched the highest price of the day, (August 7th). The wheat was cut when so green that the men said it was unfit to reap: but it was n't!

A. R. J. F.  
A. R. J. F.

injuriously upon young clover. Long before they are ripe this clover will have grown through the corn, while in other parts of the same field it will be by that time killed by the barley.

#### THE SEASON.

As the season rolls on and unfolds its story it does not improve much. What we want is that intense and uncomfortable heat to which we gladly submit for the good of the country. Where are the hot days and nights to which we can look back in past years? As yet winter clothing has not been unbearable, and certainly the light and airy costume of flannel shirt and trousers has been a little comfortable and chilly. We want no thermometer to tell us that the summer heat is below par. We look longingly at the empty fire-grates, and envy the warmth of the kitchen fire. There is no temptation to throw windows open night and day to get a breath of air, and with this chilly or at least cool air there is a continuation of damp which is anything but agreeable. In the face of such difficulties, how can we expect a full corn crop?  
*Eng. Ag. Gazette.*

#### SPARROWS.

Will some of your readers give their experience as to the effect of these birds on their farms. My crops of corn are simply frightful through the ravages of these pests, and I am completely beaten to know to prevent the loss, for, if shot at in one field, they merely fly away to another. They have already devoured and destroyed many quarters of good ripening corn. Is it true that Miss Ormerod has stated her belief that "these birds are of no value whatever, that they do not feed upon or destroy insects, &c."? If so, they should be regarded and treated as rats and mice. As the law stands farmers cannot poison them in the same way as they would these vermin. What then is to be the remedy? Cannot farmers approach Mr. Chaplin as to getting the law altered? In my district their number increases year by year.

*Highfield, Newark.*

W. O. QUIRELL.

#### SELECTING RAMS.

Reference to our advertising columns will show that ram sales are at present a principal topic of interest, and a few remarks on ram buying may not be thought out of place.

#### BENEFIT OF CHANGE OF BLOOD.

It is true that there are flocks which have been bred for long periods without importing new blood, either in the form of rams or of ewes, but such a system can only be depended upon in cases of superior excellence which in these days it is difficult, if not impossible, to attain. In the olden days a breeder might stick exclusively to his own flock, or be very chary of buying; but now exclusive dealing is not desirable even in one's own flock, and some reciprocity is demanded. The breeder, whose name never appears as a buyer at the sales of his brethren, can hardly expect to see a genial and fast-bidding company assemble around his own ring. The time for an egotistic belief in our own superiority has gone by, and it is scarcely reasonable to suppose that a sheep may not be found worthy of mating with some of the ewes even of the best possible flock. We decry "touting" of any kind. To buy merely to secure buyers, is not consistent with the highest standard of breeding, for the intrinsic merits of a sheep should be the true measure of his value. And yet we must not probe too deeply into motives, and certainly a breeder who stands aloof is not likely to succeed so well as one who turns up and shows sympathy in his neighbours' interests. This is, of course, only an indirect advantage of

buying, but there are others which are more directly connected with the actual improvement of a flock.

**FAULTS IN FLOCKS.**

Few flocks are faultless. On the contrary, many flocks possess excellences or failings which are characteristic of all or most of their members. In some cases there is want of size, although the quality is undeniably, while in others the reverse is the case—plenty of size, but a little wanting in quality. Some flocks have been bred with too little care as to colour, and want darkening in feature. Others are not quite well covered on their heads, or not quite close enough in the fleece, or, it may be, a little hollow behind the shoulder. These faults are not entirely due to breeding, but partly to situation, some farms growing large sheep, while others produce a smaller and thicker type. In some situations the features always tend to become dark, while in others a loose fleece seems inseparable from the land. It is impossible to explain these variations except upon the general principle of the effect of the environment in modifying animal form, which must be accepted as an ever present cause of change. To keep up the best type it is necessary to import fresh blood, and hence the desire of breeders to refresh their flocks.

This is well known to be the case in foreign studs, and is one of the best guarantees that we shall continue to receive visits from foreign and colonial buyers. It is to a less extent true of home flocks, bred in countries more or less remote from the native district of any breed. Thus breeders of Lincolns will generally prefer to return to Lincolnshire for rams, and breeders of Southdowns or of Hampshires will visit sales in the original districts from which their sheep sprung.

**YOUNG BREEDERS**

must buy. They have an arduous task before them—that of securing a reputation and a flock—and these aims can only be obtained by buying the best and securing prizes. They must, for a few years at least, be spirited buyers, while, at the same time, their judgments must be exercised in consolidating divergent elements so as to fuse them into a uniform and characteristic type.

**PRINCIPLE OF SELECTION.**

The principle is not difficult to grasp, but it is less easy to apply successfully. That like begets like is particularly true in sheep breeding. It is not so true, so far as we can judge, in cattle breeding. The idea of Shorthorn breeders is not to secure a perfect model so much as a perfect lineage. Those who attend Shorthorn sales will have been struck with the high prices given for plain animals, and with the indifference with which animals possessing all the points that strike the eye are passed over. The value is here chiefly regulated by the pedigree, and the principal consideration appears to be how the links will fit in with the previous record. This is not the case with sheep. Happily, the pedigree mania has not taken a firm hold of sheep breeders, and it will be well if it never does. That sheep must be well and purely bred is certain, but the general reputation of the flock is ample proof that this is the case. A Leicester breeder is sure to keep his flock pure, and if of late years he has been encouraged to improve by importing a dash of Lincoln it is well known, or sufficiently evident. A long list of sires and an exaggerated value attaching to paper pedigrees are to be deprecated as likely to lead to fictitious values. Sheep breeders have hitherto steered clear of this snare, and have only bid high for sheep of special merit. It is not uncommon to see a ram

fetch 80 gs., while his own brother makes one of the tail of low prices that concludes the auction. And yet both are absolutely the same in lineage. Experience proves that a good sheep may be relied upon, while a bad one cannot, even although his pedigree may be identical.

It is interesting to note how small faults reduce the value of a sheep at an auction. The slightest deviation from the right colour, a disposition to throatiness, pigmouth, openness in fleece, sloping pasterns, weakness in neck, want of width, length, or depth, will at once consign a sheep to the five-guinea class, or even to the unsold residue.

Rams should be selected with a view to correcting the faults of ewes. This ram will do for a score or so of light-faced or kind ewes, and that for a few strong or sour ewes. Weak-necked ewes must be mated with a sheep carrying a good scragg, and light fore-quartered ewes with a ram that is good in front. The simple law appears to be that excess in one parent corrects the deficiency in the other. The most remarkable part of the matter is that superior excellence always tells, and that a fault in the sire always comes out in the offspring.

JOHN WRIGHTSON.

**LINCOLN RAM.**

The picture shows a Lincoln long-wool sheep—"a fine typical ram," says the *Mark Lane Express*, "belonging to the flock of Mr. Henry Dadding of Riby Grove, Great Grimsby. These animals have a pedigree extending over 120 years, and their success in the showyards has been almost phenomenal. Three shearling rams from Mr. Dadding's flock, which took the first prize at the Royal Agricultural Show at Windsor last year, were sold for 450 gs., and were exported to Australia.

**CROPS FOR 1890 IN QUEBEC.**

*Summary of Monthly Bulletin on the appearance of crops for the month of July 1890, published by the Department of Agriculture of the Province of Quebec.*

The Month of July has been remarkable for its great heat and several cool nights. The frequent showers during this month have been very prejudicial to hay-making, and in certain localities the quality of the hay has been affected by them. Much damage has also been done in certain places by strong winds and thunder storms. A great many complaints are made about the meadows having been winter-frozen, and this may explain the average yield of our crop of hay. With a few weeks of fine weather our farmers expect sufficient satisfactory results from this year's crop.

**GENERAL SUMMARY.**

Hay .....	Average.
Wheat .....	Good appearance.
Barley .....	Above average.
Oats .....	Under average.
Buckwheat .....	Good.
Rye .....	Good.
Peas .....	Good.
Indian corn .....	Good.
Potatoes .....	Good.
Roots .....	Good.
Tobacco .....	Good.
Culture for Silos .....	Good.
Fruits .....	Under average.

**TEMPERATURE.....** Mean 80° Fahr.

By order, **GEORGES L'ÉVÈRE,**  
Secretary, Department of Agriculture, P. Q.



## NON-OFFICIAL PART.

**FOR SALE.** — Norman cattle, Ayrshire cattle, Chester-white and Berkshire pigs, Plymouth-Rock poultry. Apply : Honble Louis Beaubien, 30 St. James Street, Montreal.

## Life in a Lumber Camp.

While working in a lumber camp a year ago I caught a severe cold which settled on my lungs, I got no relief until I tried Hagar's Pectoral Balsam, which cured me entirely. I highly recommend it. JNO. L. WILSON, Magnettawan, Ont.

## THE " HARAS NATIONAL " COMPANY

40 Acclimated Normans and Percherons Stallions.

Most favorable terms, a small amount only asked for in cash.

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LS. BEAUBIEN, President. E. AUZIAS TURENNE, Director.

## A Little Spark

May kindle a great fire, just so dyspepsia and bad blood give rise to countless complaints which cannot be cured until the dyspepsia is removed, and the blood purified. To do this is the work of Burdock Blood Bitters, a medicine which always cures dyspepsia, bad blood and all complaints of a similar origin.

Our readers who are afflicted with deafness should not fail to write to Dr. A Fontaine, 19 East 14th Street, New York City, for his circulars giving affidavits and testimonials of wonderful cures from prominent people. The doctor is an aurist of world-wide reputation. See his advertisement elsewhere.

## Rose Island Reports.

I can state that we have used Hagar's Yellow Oil with great benefit for colds, sore throat, cuts, burns, chapped hands, &c. We can recommend it to be very useful and good in many different ways.

MRS. ABEL HELPS, Rose Island, Ont.

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ALL of the above mailed for 10 cents if ordered at once. This offer positively withdrawn 30 days from date of this paper.

THE last two issues of the JOURNAL contain some specially strong features, including "My First Sermon," by Dr. T. De Witt Talmage; an interesting article on "Promiscuous Bathing," Gaities of Newport; "A Country Courtship,"—a full-page, handsomely-illustrated poem.

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Louise Chandler Moulton,	Maud Howe,
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