

To supply the demands of this programme, the manuals of elementary treatises on farming which we now possess, good enough in their way, would be insufficient, so I propose that government be requested to have these elementary works revised, or to have new ones written that will supply our present demands. At the same time I trust government will be prayed to organise a system of agricultural instruction, not only for primary schools, but for the establishments of the superior education, in order that every one should be taught the things pertaining to agriculture, in so far as his position may require him to understand them.

The programme I have just sketched would also comprise the teaching of appropriate notions of agriculture in our convents. If these houses are left out of the scheme, farming will suffer. It is absolutely necessary that she, who is called upon to become the companion and helpmate of the farmer, possess the same ideas and almost the same information as he, and, besides, she has duties, particularly the care of the dairy, which are peculiarly her own. She must, too, early acquire the taste and the knowledge suited to her husband's position. Instruction in the home-industries of the farm, then, should, in our programme, take the place of instruction in music and fancy work.

What an example have ladies of the Ursuline Convent at Roberval lately given us in this connection. There, they are not satisfied with theory, practice is equally studied, and this is what is needed if we would arrive at weighty results.

I conclude, gentlemen, by proposing for your approval, as a corollary of the ideas I have been laying before you, two resolutions to be submitted to the Congress assembled in general session.

FIRST RESOLUTION.—That the Provincial Government be respectfully requested to take the necessary steps to inaugurate a system of agricultural instruction in our elementary and model schools, our academies and colleges, by first of all causing the publication of a graded course of agriculture for the use of these institutions, and then making such amendments in the school law as shall be needed to render this system easily introduced into every part of the province.

SECOND RESOLUTION.—That our universities be respectfully requested to study the means and to seek for the necessary elements to create chairs of agriculture and rural economy, whence public courses shall be gratuitously given.

(From the French.)

The Dairy.

L'ASSOMPTION AGRICULTURAL SCHOOL.

Report on the use of Beans and Linseed as food for Milch-cows.

For several important reasons, the experiments asked for by the Department of Agriculture on this matter could not be begun until December 2th, 1892.

For the purposes of the experiment, 10 cows were selected and divided into two groups of 5 each, group 1, and group 2.

The duration of the experiment embraced 3 periods.

During the first period, both groups were fed alike on the food they had

been previously receiving: 25 lbs. of maize silage, 9 lbs. of hay chaff and 3 lbs. of straw chaff, 3 lbs. of wheat-bran and 3 lbs. of wheat middlings, each head *per diem*, given at 2 meals, night and morning, and, at noon, 10 lbs. of long hay or 10 lbs. of long straw alternately, i.e., every other day.

The manager thinks that the alternation of the two last mentioned fodders, of unequal nutritive value, has the effect of exciting the appetite of the cattle.

The chaffed fodder, the silage, and the bran were mixed, moistened with cold water, and given to the cows after steeping for 72 hours to allow the mixture to begin to ferment.

The water being cold and the silage half-frozen, necessitated that lapse of time to allow the fodder to warm up a little by its fermentation.

During the 2nd period, group No. 1 received, in addition to the above ration, 3 quarts of boiled beans and 3 lbs. of linseed scalded.

During the 3rd period, group No. 2 received the beans and linseed, and group No. 1 only the common ration described above.

The rations, except the beans and linseed, were not weighed regularly every day, but simply measured. (1)

We were not in a position to carry out this investigation with all desirable precision, so the increase of the milk in group No. 2, during the 2nd period, raises a suspicion that there was some alteration in the quantity or proportion of the food.

I intend to renew this experiment next winter.

The following table shows the results obtained by the investigation:

at their respective establishments on the use of beans and linseed in the feeding of milchcows. We hasten to publish these reports, regretting to mention they conducted, last winter, see that the results of the experiments were by no means conclusive. We hope that another series of experiments, to be instituted next year, will prove more satisfactory.

Sto-Anne's School of Agriculture
July 20th, 1893.

To Mr. JENNER FUST,
Montreal.

SIR,

The Department of Agriculture has requested me to send you the report of an experiment made by me with beans and linseed as food for milchcows. I send the report herewith. It is not very favourable to the effects of the beans and linseed, but it is perfectly trustworthy. I will make fresh experiments next year.

Believe me,

Truly yours,

L. O. TREMBLAY, Prte., Dir.

School of Agriculture,
Sto. Anne de la Pocatière,
July 21st, 1893.

In the month of December last, I conducted an experiment on the use of beans and linseed as food for milchcows. I selected two groups of 5 cows each due to calve in April, and giving, on the 1st December, within a pound of the same quantity of milk a day. To one of these groups, I gave, in addition to their ordinary ration, during 15 days, a feed of cooked beans with linseed—(a quart of beans and $\frac{1}{2}$ of a quart of linseed,) daily to each cow.

It will be seen by this table that there was an additional yield of milk of 171 lbs. from the cows that received beans and linseed.

This result does not certainly show in favour of the use of the beans and linseed as food for cattle, as the cost was too great. Still, I am of opinion that their use would be more effective on cows receiving a less abundant ordinary ration than our cows are accustomed to get. This was, for each cow, at that time, 8 lbs. of good hay in the morning; $\frac{3}{4}$ bushel of swedes at noon; and, at night, alternately, straw and salted hay. (1)

I am told that a smaller quantity of beans and linseed would have given as good a result: it may be so.

As for the quantity of butter made from an equal quantity of milk from each group, I had butter made separately twice, and found no difference at all. Nevertheless, I intend to institute fresh experiments before deciding on the expediency of using linseed and beans for the economical production of milk.

Your obedient servant,

L. O. TREMBLAY, Prte., Dir.

The great variation in the yield of milk on different days in the figures given by Monsieur Tremblay must strike every one who reads them. On December 9th, the 5 cows constituting the beans and linseed group gave 95 lbs. of milk = 19 lbs. each, and on the 12th 77 $\frac{1}{2}$ lbs. = 15 $\frac{1}{2}$ each. As the cows seem from the Director's letter to have been all in calf, this difference cannot be accounted for by one or more of them having been "in season," and we are led to suppose that some

TABLE SHOWING THE RESULTS OF THE EXPERIMENT.

PERIODS OF THE EXPERIMENT.	Group of 5 cows.	Total milk in lbs.	Quantities of milk per diem for each cow, in lbs.	Average percentage of fat by the Babcock.	Total fat, in lbs.	Total butter obtainable, in lbs.	Butter obtainable daily.	Daily increase of butter due to the beans and linseed.
1st Period from 26th Dec. 1892 to 7th Jan., inclusive, 1893 = 13 days	No 1 No 2	503 444	7.78 6.830	3.815 3.88	19.189 17.227	22.05 19.81	1.69 1.52	
Difference.....		59	0.908	In fav. of No. 2 0.065	1.962	2.24	0.17	
2nd Period from 8th to the 23th January, inclusive, = 16 days	No 1 No 2	785 581	9.31 7.26	3.62 3.26	28.42 18.94	32.68 21.78	2.04 1.36	0.35 lbs.
Difference.....		204	2.55	0.36	9.48	10.90	0.68	
3rd Period from 24th Jan. to the 8th Feb., inclusive, = 16 days.....	No 1 No 2	584 516	7.30 6.45	4.200 3.675	24.530 18.963	28.19 21.80	1.76 1.36	0.000 lbs.
Difference.....		68	0.85	0.525	5.567	6.39	0.40	

We must congratulate Monsieur Marsan on the very effective way in which the above table is drawn up. It is clearness itself. We're sorry to see that, for some reason or other, the results of this experiment, too, are not satisfactory.

BEANS AND LINSEED FOR MILCH-COWS.

The Rev. Messire Tremblay, Principal of the Agricultural school at Sto. Anne la Pocatière, and monsieur Marsan, of the Agricultural school at l'Assomption, have been good enough to forward us reports of the experi-

(1) But if the groups got 3 quarts of beans, that part of the ration can hardly be said to be weighed. Rn.

The result was as follows.

GROUP EATING BEANS AND LINSEED.	GROUP ON ORDINARY RATION.
1st Dec. 76 lbs. of milk	78 $\frac{1}{2}$ lbs. of milk
2 " 83	75
3 " 87	77 $\frac{1}{2}$
4 " 79 $\frac{1}{2}$	79
5 " 84	75
6 " 86 $\frac{1}{2}$	76
7 " 88	73
8 " 84 $\frac{1}{2}$	72 $\frac{1}{2}$
9 " 95	68
10 " 90	72
11 " 87	71
12 " 77 $\frac{1}{2}$	72
13 " 85	68 $\frac{1}{2}$
14 " 83	69
15 " 84	72
1270	1099
1099	
171	

irregularity of feeding might have taken place. The sudden jump up, too, from 76 lbs. on the 1st to 87 lbs. on the 3rd, followed by a fall to 79 $\frac{1}{2}$ lbs. on the 4th, is difficult to account for.

The cows during the experiment seem to have given a daily average of:

GROUP ON BEANS AND LINSEED. GROUP ON ORDINARY RATION.

17 lbs. each. 14 $\frac{1}{2}$ lbs. each.
1 gallon and 2 $\frac{1}{10}$ 1 gallon and 5 $\frac{1}{10}$:
very moderate yields indeed for cows having still more than 5 months to go before calving.

M. Tremblay doubts if the extra ration pays; he would find, we think,

(1) Does "foin salé" means salted hay, or hay from the salt-marshes? Ed.