

ter, he replied that by feeding the animals immediately after each milking he never has any complaints on this score. "By adopting this plan," he said, "I have never had occasion to resort to saltpetre or any other material for preventing the objectionable taint so often complained of." The milk is set in shallow pans in the ordinary way. It is skimmed the day after being set, and churned the following day. Thus, Monday morning's milk is skimmed on Tuesday, the cream is then set apart and churned on Wednesday—the condition of the weather, of course, regulating the particular hour at which it is fit for being dealt with; but the souring process is not allowed to go very far until it is considered ready for churning. The ordinary barrel-churn is used, and the details of the churning process are the same as those generally followed. The butter is partly washed in the churn, and partly on the butter-worker. After being taken from the churn it is placed on the worker, and a strong brine is poured over it as it passes over the rollers. The brine used is of the ordinary strength, and it is found to keep the butter pure and sweet for any reasonable length of time.

School-farms.—I am happy to see that my ideas on the impossibility of making a profit on farms intended either for teaching, or for purely practical experimental purposes, are confirmed by so high an authority as Sir Richard Paget. In a letter lately written to the *Times*, Sir Richard, after insisting on the want of "thoroughly trained teachers of agriculture," proceeds: How these schools are to be established it is not easy to see. They cannot pay. They are not meant to.

I see in the report of the Agricultural School at Ste Anne de la Pocatière for 1889-1890, credit is taken for a net profit of \$1661.20. This, on a farm of 465 arpents is wonderfully good, but I do not see any *per contra* for rent, or, in other words interest on the purchase money of the farm. This rent or interest would alone swallow up the profit.

At this school, there seems to have been an average of eleven pupils during the year, to instruct whom, the services of six teachers were employed. The crops were not good:

Wheat.....	8 arpents.....	12½ bushels an arpent.
Oats.....	37 "	11½ " " "
Barley.....	15½ "	18 " " "
Mixed grain ...	31 "	15½ " " "
Potatoes.....	13½ "	134 " " "

At L'Assomption there were seven teachers and ten pupils. Crops:

Barley.....	19 arpents.....	21 bushels an arpent.
Mixed grain.....	28.84 "	25 " " "
Oats.....	.50 "	17 " " "
Potatoes	6.50 "	94 " " "
Maize, for silage?	3 "	12 tons " "
Sugar beets....	1½ "	260 bushels " "

Grain-crop better than that at Ste. Anne, but the potato one third less. The sugar-beets, at 260 bushels the arpent would give about 5½ tons the arpent.

Again, I have to remark that I find here no rent or interest on outlay for the purchase of the farm &c. The balance-sheet is as follows:

Expenditure.....	\$1918.68
Receipts	1655.98
Deficit.....	262.70

but credit is taken for three items = \$300, which wipe out the deficit.

Nitrate of soda.—The price of nitrate of soda to-day at Liverpool is \$32.00 per 2,000 lbs., 95% purity. This makes nitrogen worth a shade over ten cents a pound! Gray sulphate of ammonia (24% ammonia) is worth \$48.00, nitrogen, therefore, in that form costs 12½ cents a pound. Here, sulphate of ammonia, 20½% nitrogen, costs \$3.50 per 100 lbs., equal to 17 cents a pound. Too great a difference between the two markets. (1)

Butter.—Messrs. Moodie & Graham, Ste. Catherine St., who are good enough to supply me with groceries, tell me that the butter I praised so highly, on the authority of the butter-eating members of my household comes from *Millar's Creamery, Veunior, Ont.* If it is as good to taste as it is to look at, Mr. Millar is to be congratulated on his dairyman.

Extra food for cows on pasture—At the New-York Agricultural Station, experiments were tried during the summer of 1890 on the effect of "a grain ration for cows at pasture." This seems to be rather a mis-nomer, as the extra good consisted of 200 lbs. of wheat-bran, 15 lbs. of cummins—malt-sprouts—and 150 lbs. of cotton-seed meal. The cows experimented on do not seem to have been of very high class order, as they gave 28½ lbs. of milk a day when the trial began, though only, on an average, much less than two months from calving. The pasture—almost entirely blue-grass, *poa compressa*—was rich and luxuriant up to July 20th; then drought set in, and second-cut clover was given to the whole herd. After the 20th of August, frequent rains made the pasture what it was at the commencement of the experiment. The average yield of milk for the first period, from May 31st to July 12th was: Lot 1. pasture.

lbs.	lbs.
29.61—butter per week	8.34
Lot 2. pasture and grain.	
lbs.	lbs.
30.68—butter per week.....	7.91
2nd period, from July 19th to August 16th: Lot 1.	
lbs.	lbs.
22.02—butter per week.....	4.96
Lot 2. lbs.	lbs.
24.40—butter per week.....	5.44
Third period, from August 23rd to September 27th.	
Lot 1. lbs.	lbs.
17.87—butter per week.....	5.82
Lot 2. lbs.	lbs.
19.96—butter per week.....	6.19

As in 1889, when a similar experiment was made, no profit was gained by the extra food. "In the whole period," says the report, "we have 1.58 pounds of butter per cow, or about 4½ pounds in all to show for the consumption of 2,822 pounds of cotton seed meal, &c, by Lot 2." The conclusions arrived at are the following:

CONCLUSION.—In two trials in two seasons we have received no return in milk and butter from feeding a grain ration to cows on good pasture.

In one trial with cows soiled on fresh grass we have received in increased milk and butter production and in saving of grass consumed, barely enough to pay for the cost of the grain ration added.

In neither case has any allowance been made for increased value of manure when grain is fed, which would be consid-

(1) But, as published in the May number, Mr. Evans sells nitrate of soda at \$2.50 per 100 lbs., which makes nitrogen=14½% a pound. Mr. Vasey's sulphate of ammonia is reduced to about \$3.00 per 100 lbs., in quantities.
A. R. J. F.