

two men, and a boy to drive the horses in the subsoil plough would be an expensive charge for an acre of land; and I never saw more than $\frac{1}{4}$ of an acre got over in a day yet with this equipment.

But, pray, do not plough *flat*. No harrows, however sharp the tines may be, can get hold of a flat furrow.

ARTHUR R. JENNER FUST.

Sherbrooke, January 14th 1887.

Dear Jenner Fust,—In answer to "F. R." who asks for a reason why at certain seasons it is difficult to make butter come. I would say that your article in the last May number of the Journal, page 67, seems to make the matter clear, when you advised feeding a mixture of four pounds a day of mixed peas, oats, and linseed during the winter months. For many years I have avoided this trouble by giving to each cow as a warm drink either 3 or 6 pounds of fine shorts a day. This year, having a quantity of carrots I tried them instead, feeding them whole, with fine early-out meadow and clover hay, soon however the old trouble returned, and starting with the cream exactly at 60° F. six long hours were spent in vain. I then tried the Devonshire plan with great success, but wishing to ascertain if possible wherein lay the first difficulty I tried once more the old plan with the same result as at first: the butter globules would not burst, so I began experimenting, putting the churn out just as it was over night, I brought it in with the cream frozen stiff. Leaving it to thaw out, I waited till the cream had risen to 60° and then on turning the handle for five minutes the butter came. Next I took fresh cream and froze it in a bowl, when, on being brought to the right temperature, butter came in eight minutes. Now, may it not be that freezing and heating have the effect of bursting or weakening the casein-sacs that envelop the butter globules? Abandoning the carrots, and substituting 4 quarts of bran a day to each cow, given in a warm mash, I began saving by itself the cream from the cows, commencing on the day the change was made, bringing the cream as usual to the temperature of 60°. Note the result: in thirty minutes, about half the butter came, was taken out, washed and salted, and in fifteen minutes more churning the remaining half was gathered. Since then, on bran mashes and hay I have had no more trouble, twenty five minutes being the average time to get the butter to the granulated state, and the date of the time when the cows calved is of course more distant than when the butter first refused to come.

W. A. HALE.

TO ARTHUR R. JENNER FUST.

I read with great pleasure M. B. Lippens' article on "The Enrichment and Impoverishment of the soil" in your last number. I think he has struck the right key note, when he says we cannot keep our farms up without imported manures. But is he aware that the Government charge a duty of 20% on all imported commercial fertilisers. Which, in most cases, is equal to about \$7.20 per ton. Canada is the only country I know of where a duty on fertilisers is imposed. Surely our farmers are not so much better off than those of other countries that they can afford to pay such a tax to the government for the privilege of improving their farms. As all soils are not wanting in the same plant food, what does great benefit on one piece of land may show no results on the next. So that in using commercial fertilisers, the farmer ought not to say they are worthless because they do not show good results on his land, until he has tried several kinds. As the case stands at present, after he has tried the so called superphosphates manufactured in this country and found them of no use to him, if he wants to con-

tinue the search till he does find what he requires, he will have to pay the government a heavy tax for the privilege of doing so.

And yet people wonder why the farms in this Province are so worn out? Let the government take off the tax and encourage the use of fertilizers, and we shall have a different story to tell in a very few years.

FAIRFIELDS.

Cash value of 1 ton of turnips. (1)

The *Agricultural Gazette*, of England, (Jan. 13th, 1887,) state that one ton of turnips produces an average of fourteen lbs. of live weight increase in flesh. Thus, at 3 $\frac{1}{2}$ c a lb. for such meat, a ton of turnips in this country would only produce 49 cents. When meat sells for 5c a lb live weight, the value of turnips would amount to 70c a ton of 2240 lbs.

The manurial value of such turnips the *Gazette* estimates at \$1 00 (4s, stg) However, for with the farmer who feeds his produce, the net value only must be considered, as he must manure his field in order to obtain the turnips, and such manuring represents actually more fertilizing element than can be returned in the crops.

What says A. R. J. F.?

Quebec.

A. R. J. F. has to observe that if a ton of turnips will not make more than from 49 cents to 70 cents worth of meat, it will not answer to fat beasts on turnips alone in this country. More; he believes that, as he has often said in this Journal, to fat beasts at present prices is a losing concern never mind what the food given them may be. A. R. J. F. calculates the loss on every bullock fatted at \$14.00; and this must represent the value of the dung left behind. (V. J. 1886, p. 123.)

Mr. E. W. Stewart, in his book on feeding animals, gives the value of swedes as \$3 00 a ton. And allowing twenty tons an acre to be a fair crop, this would give \$60.00 for the value of the swedes.

As for "Quebec's" allusion to the manurial value of the ton of swedes, A. R. J. F. would wish "Quebec" to observe that if the manure given to the land for the growth of the crop be reckoned, the manure produced by the consumption of the crop must be also in its turn credited to the crop.

A. R. J. F. would refer "Quebec" to the article on growing turnips and its cost—this was in the printer's hands before "Quebec's" letter was received.

(1) When English people talk of "turnips," they mean *white turnips*, which are very inferior in value to *swedes*. A. R. J. F.

NON-OFFICIAL PART.

A GREAT REWARD

will be secured by those who write to Hallett & Co., Portland, Maine. Full information will be sent you, free, about work that you can do and live at home wherever you are situated, that will pay you from \$5 to \$25 and upwards a day. A number have earned over \$50 in a day. Capital not needed: Hallett & Co. will start you. Both sexes; all ages. The chance of a lifetime. All is new. Now is the time. Fortunes are absolutely sure for the workers.

"The Farmer will find that thorough cultivation of wheat ground is manure, and that each of his teams earns \$10.00 each day they are thus employed." If this is true, how important it is that the farmer should use proper implements for the purpose of pulverizing the soil. See advertisement of the "ACME" Pulverizing Harrow, Glod Crusher and Leveler.