

their only feed, and it is urged upon them. I have seen this indicated in practical results on many occasions. With straw costing nothing and corn \$1 for 60 pounds, I found by trial that I could keep my cows cheaper than I could by hauling common hay at \$10 a ton, and yet the hay fed would have shown by analysis that it contained the greater weight of food elements. The loss in the hay occurred, first, in its imperfect digestion. More nutriment may be got out of a large feeding of hay than a smaller one, though the larger one be not so well digested as the smaller. Hay is not usually, even under favorable circumstances, very well digested by either horses or cows, especially if it was not cut till the seed began to fill. The experiments of L. W. Miller in exclusive meal feeding have demonstrated pretty well the imperfect digestion of hay. He has kept his dairy in the winter from 40 to 100 days on an average of three quarts of cornmeal only per day to each cow—equal to five pounds of meal a day to a cow—the cows keeping up and doing well on it. To keep cows of their size (I should, from their appearance, judge they would average from 900 to 1,000 lbs. apiece) would require not less than 18 to 20 pounds of common hay a day. Average hay yields 50 per cent. in weight of food substance—cornmeal 80 per cent. Five pounds of meal would therefore give 4 pounds of food substance to each cow per day, and 18 pounds of hay would give 9 pounds, which is more than double the weight of digestible food in the cornmeal, and yet when living on the hay the results were no better (Mr. Miller insists they were not as good) than when living on the meal alone. If hay could be ground finely, or scalded, or both ground and cooked, it would doubtless show a digestive result much better than when fed long. Secondly, the economy of feeding hay exclusively is affected by the great weight which it compels the cows to carry. A pound of hay will take up two pounds of water (early cut more than late cut) to soak and soften it and furnish liquid enough to give the mass a pulpy condition in the stomach. As it takes about 2 days for a meal of hay to work its way through all the stomachs of a ruminant, the cow which eats 20 to 25 pounds or upwards of hay a day carries in her paunch a load of 100 to 150 pounds. To carry such a load costs a waste of muscle and vital force which must be supplied from the food consumed, which, to that extent, makes a deduction from its useful effects. In horses which have much exercise to endure, an extra weight in their stomachs tells heavily upon their efficiency. It makes such hard work for them to travel or labor hard that the prudent groom is careful to feed food so concentrated as to avoid it as far as possible. The same effect is produced in cows in proportion to their amount of exercise, besides the debilitating effects of the uncomfortable distention.

Third. The different food substances in May are not in the best proportion for feeding in cold weather. The heat-producing elements are too low. A more perfect diet for cold weather is furnished by mixing with it in a concentrated form some more heat-producing food like meal or oil-cake.

The numerous observations from which the foregoing points have been deduced, lead to the position that the quantity of hay most profitable for a cow to use is the smallest amount that will give her stomach a comfortable distention, certainly not more than she can have ample time to remasticate, and that when more nourishment is required than is thus furnished it will serve her best to supply it in something more concentrated and easy of digestion than common hay.

Cattle when taking in their food do not grind it any more than just enough to enable them to swal-

low it comfortably. They hurry it away into their large storehouse—the paunch—and wait for a more leisure time to pulverize it thoroughly. When crowded with all they can get down it is impossible to remasticate more than a small part of it, and it must go along half prepared for digestion and the digestion but half done.

There is no profit in keeping cows without feeding them not only well, but liberally, but the feeder to reap any profit from his generous feeding should study to give his food of such kind and in such form that his animal machines can work it up economically and without unnecessary waste.

There is a constant tendency among those dairy-men who give the closest attention to the results of feeding to depend less on hay and more on very finely ground grain or other concentrated food easy of digestion.

When a large yield of milk is to be produced something besides hay must be fed. It is utterly impossible for cows to digest common hay enough to support the heat and waste of their bodies and supply the material for a large flow of milk. Either the body or the yield of milk must suffer if only hay is fed.

#### The Farmers' Club.

BY HENRY IVES, BATAVIA, N. Y.

As I am a farmer, I take a great interest in agricultural exhibitions and discussions, and in the reports of them which we have in our very useful agricultural journals, and have been particularly interested in attending a few of your Provincial Fairs by seeing the great interest your citizens all take in making these shows successful; and the interest seems to be a genuine agricultural interest, instead of an interest in the horse-trot or side-shows, or even in the drinking and gambling which I regret to say has disgraced some of our fairs. But I have been surprised, after seeing the great interest they take in these annual exhibitions, that I don't hear more of the discussions of these farmers at their Farmers' Club meetings. Such clubs should be formed in every town or district, and regular meetings should be held by them for a free discussion on all matters relating to their particular calling and interest. I believe it to be quite instructive and profitable, besides being very interesting and social, for farmers to have such meetings. As I know that with us there is a lack of interest in organizing such clubs for the discussion of farm topics, and I presume by the lack of reports from such clubs in your agricultural journals, that your farmers are quite as dilatory in this respect, when I should have expected them to be much ahead of us in this matter, judging from the interest taken by them in the annual exhibitions of their products. These two societies, of course, would have mutual interest, but I think the Farmers' Club to be of the most practical benefit to the farmer, for where the other shows us the best samples of grain or roots or stock, and the largest yields attained, at the Farmers' Clubs we can have the way of growing and managing these described, and can question the farmer producing them as to the soil, the fertilizing, the cultivation and everything relating to his management in growing premium crops, so that others may learn how to grow the same. Such products are generally the result of particularly good management, but for them to do others any good (except feasting their eyes on them) we should have their manner of treatment and growth, as they will be given at such discussions. I believe there is rather a false impression prevalent with farmers about the utility of attending such discussions; the best farmers may think it would be of little advantage to them, thinking that they had already learned about all there was to be learned about agriculture, but such men will

be surprised to see how much they may learn at these meetings, even from those they had considered rather poor farmers, but who had either by accident or by some particular management learned an improved way of doing or managing some particular branch of farming, which it would be well for the farmers to imitate. Others would think it would be an advantage to them to attend such discussions, but fearing that they may be called on when they have no speech to make, they would hesitate to go to them; but these men would find when asked to state their way of doing any particular piece of farm work, that they can state it readily enough to their brother farmers, and all attending such meetings would find that they were watching the results of all their farm management closer than they did before, so that if called on to report, they could do it more intelligently; they could see if they had obtained as good returns as another farmer had from the same management as it had been reported to their club.

For the management of the club meetings I believe it best to use very few rules and regulations, only to keep proper order while the farmers have a plain and free discussion on the question that may be before the meeting. The interest in and attendance at such meetings is best through the winter months, held once a week or twice a month for that time, and for the summer months have a committee appointed, or else as a committee of the whole visit the several members of the club on their farms to see the practical working of them, also to criticize or commend as they may find occasion on seeing each one's farm management.

It will also add much to the interest and to the good such discussions will do if the club is fortunate in securing a good Secretary to make out a report of the meeting, which their local paper will be pleased to have for publication, or what is sometimes better, make the editor of such paper an honorary member of the club, and invite him to attend and to make out such a report of the discussions for himself.

#### Caution to Travellers.

At Harrisburg an apparently respectable man approached us, gave his name and address, and said he owned 300 acres of land and a grist mill. He had lost his purse on the cars, and wished to proceed to Toronto. He told a very urgent tale, but thought a few dollars would put him all right, and be returned by the first mail. He used a good name, and was just such a person as would draw money.

We pay a tax to support policemen and detectives. Are they attending to their duty? Even in this city we find such characters too frequently calling. We never can expel all imposters, but more should be done to protect the honest and unwary, and bring rogues to justice.

CANADIANS GOING TO THE STATES.—While we are spending money to bring old country emigrants into Canada, American land agents find not a few of our own people willing to leave for the States. The *Hamilton Spectator* of a recent date says:—"The Arkansas local agency of Messrs. T. B. Mills & Co. seems to be doing a thriving business. We are informed that Messrs. J. O'Brien and Richard Fitzgerald, of Glen Morris; Mr. A. S. Rollins, of Centralia; and Mr. R. Lyons, of Hamilton; left yesterday morning for Arkansas. Last week Mr. James Fulton, of St. George; Mr. James Atkinson, of Hamilton; Mr. Arthur Kemp, of Bartonville; Mr. A. McKinnon, of Toronto; and Mr. Peter Fraser, of Waterdown, started for the same State. Almost daily parties are going South to take up the lands for sale by Mr. Mills.

TO OUR SUBSCRIBERS.—Should you consider that Agricultural Clubs would be beneficial, we hope you will give us the names and addresses of such persons in your townships as you think would be most suitable for Directors of the Dominion Board; also such as would make suitable members. In writing to this office on agricultural subjects, use separate parts of your letter for separate subjects.