

pounds of digestible protein a day to their cows. Roughage is scarce and they have fed her concentrated feed in an effort to make a great yield. Now they have a cow without capacity for taking the roughage off their farms and turning it into profit for them. That is where we may drift if we do not consider this matter of economical production. We have to have a cow that will take our feed, our roughage and some grain, and turn it into the most profit for us. That is what the average farmer wants and I believe the fault lies with the individual more than it lies with the breed. We have got to find those individuals and the only way to find them is to find how much milk they will give in a year, how much butterfat, and how much feed they eat in a year. We have to find what they do with the feed they eat.

We will find when we do that, that there are three kinds of cows. There is one kind of cow that will take a certain quantity of feed, digest and assimilate it and from inherent tendency in her nature she turns that food into choice cuts of meat on her back, and if she does that she is a beef cow and we must make beef of her as soon as possible. Another cow will take that feed and turn it into milk in the milk pail, and if she does that she is a dairy cow, and that is the kind of a cow we want to tie to, I do not care whether she is a Jersey, Ayrshire, Guernsey, or anything else. Then we have a third class of cows, that take that same quantity of feed, digest and assimilate it, and the Lord only knows what becomes of it. That is the kind of a cow we want to get rid of.

STICK TO A SYSTEM

We cannot rely on buying our dairy cows. If we do, we will never get any further ahead. Then again, if a man relies on buying his dairy cows he has to pay a bigger price than the average farmer is willing to pay. We have to raise our dairy cows ourselves. The average farmer will bear me out in that, he has to raise the cows himself and he can do it if he will adopt a system and stick to it, as they have done in Denmark.

Let me show you what one man did in the little country of Sweden. His name was August Kink. I visited his herd a year and a half ago. I had heard of his record and wanted to assure myself that it was correct. He joined a cow testing association in 1900; he had then 70 cows. Each cow gave him a production of 7,320 lbs. of milk in a year. That is a mighty good average; you would not think he could increase it much, yet in the course of six years he had increased that production from 7,320 lbs. to 11,330 lbs. How did he do it? He had 70 cows the first year and he found out that those 70 cows 28 were good, economical producers,—just the kind of cows he needed. They would take the roughage from his farm, with a certain quantity of grain and turn that into the most profit for him, and those were the sort of cows he wanted. He kept those 28 cows, kept their heifer calves. The next year he had 46 cows, the next year 51, then 61, the year following 64 and now he has 75 cows again and they each bring 4,016 lbs. of milk more in a year.

FIGURING BY FEED UNITS

They have a system over there for figuring the feed that in some respects is different from ours. They have what they call "feed unit." They figure the feed regardless of the price. For instance, (I may not have these figures exactly right, but they show the principle of figuring the feed), 1 lb. of corn and oats is one feed unit; 1 lb. cottonseed meal is 1.7 feed unit; 5½ lbs. clover hay is one feed unit; 10 lbs. beets is one feed unit, etc., regardless of the price. They have the feed reduced to feed units. A certain quantity of feed produced this man 302 lbs. of milk; now, the same quantity of feed produces him 372 lbs. of milk. The first year, 100 feed units gave him 10.1 lbs. of butter; now the same quantity of feed gives him 13.2 lbs. of butter. Now, he did not try to make his \$40 cow produce \$75 or \$80 worth

of milk, but he simply picked out the cows in his herd that were good animals, raised the heifer calves from those cows, and in that way built up a herd. That does not seem so very difficult for us to do. It is not, it is only a matter of getting started.

What I have told you about this is nothing new; we have known it for years, we have known it ever since we got the Babcock test, have known it for 17 or 18 years. It has been taught from institute platforms, from dairy schools and colleges; we have been trying to educate the dairy farmers to do this, but they do not do it. I have had some experience along this line myself and I confess, too. A few



Bee Keeping in Quebec—Apiary of Mr. Theodoric Cloutier, L'Islet Co., P.Q.

Mr. Auguste Farford, the Farm and Dairy correspondent for L'Islet county, writes of this apiary as follows: "Visitors are numerous and very welcome. The small house in the background is where the honey is extracted, and where visitors are compelled to eat some honey due to Mr. Cloutier's generosity." Those appearing in the illustration are Mr. and Mrs. Cloutier; the two young men in the centre are visitors.

years ago I was in charge of a large dairy in Denmark. A dairy of 800 cows was owned by a nobleman who lived in the city during the winter. The management of the farm was left entirely to me. I came directly from a farm where there was a membership in a cow testing association and I was interested in putting in operation on that farm a system whereby we might be able to weed out the poorer cows, those star boarders, as Mr. Lillie says, and you know a star boarder is one that never misses a meal and never pays a cent. I was interested in weeding out those poor cows, in raising the average production per cow in this herd and I told the owner about it. I outlined a system of weighing the feed, weighing the milk, testing the milk, etc., for each cow. He listened and said: "It is a splendid idea, go ahead." Then he went up to the city to live during the winter.

INCREASED 100 PER CENT.

Well, when a man looks after 800 dairy cows, he has his hands pretty full and I was trying to get this work reduced to a system so I could take care of them, trying to teach the men how to do this, and do that, and it entailed a good deal of work, so I had just about forgotten about the new system I had explained to the owner trying to help him weed out the poor cows and raise the average production of the herd. I had almost forgotten about it because I had gotten into a rut, until I received a letter from the gentleman, asking me how the work was coming on, then I got ashamed of myself, went to work and tested those cows and when he came in the spring I had a record for a few months, and from those records we picked out 35 cows that we could see even then were not going to pay for their board. I visited him this last year in Denmark and he told me, as a result of this work I had started, that he now received 100 per cent. more profit

than he did the first year that I came there. I might say that on my own home farm the average production was increased 60 per cent. as a result of the cow testing work over there.

My father was a dairyman, had 80 cows, and he used to take us boys out to the stables on the rainy days and show us the cows and he would try to teach us lessons about those different cows. He would say, "This is a good cow. Don't you see her horns crooked just so, her tail reaches down below the hock joints. She has all the signs." We got so we thought we could pick out a good cow by her looks, but when he joined a cow testing association he found looks did not count for anything; we could not tell by the

comes. The two or three if weak cows to winter to cluster they will

There are you have, you can, shing first run heavy or

If feeding as follows: pails will a ary table must be ra pencil or an syrup is ma of wh a wash-boil the first fev the top of t plenty of oil and the bec and the bec of it down. low, then t you have a hot, thick or three or fou used for fill or four feet

A busy fa this unceru unless these and wintered cellar, espec vey. So th comb to free little honey cookstove, if stove in his

Belated be been plac filled com holes through warmly with be substituted the frames in storing of bee a subsequent

Diseases

Dr. H. G.

This is another resulting from chronic laminitis is entirely different inflammation of in the hoof.

Long hard joint, allowing long, are some which are not occasionally give suffer more spess of the feet

The first sym mal may go the next day. Often quite stiff and found to make he will be alme stand for an hour stiffened up again begin to contract to be cause result of it. Th standing and w will drag the be

looks of a cow whether she produced butter at 10 cents or 15 cents and this may make a difference between profit and loss to a man.

BREAK AWAY FROM THE RUT

If ever the time has come in the country when we can profitably adopt the same system they have adopted in the Old Country, whereby they have doubled the average yield of their cows in the course of 25 years, the time is ripe for it now. They talk a great deal about educating the farmers and buttermakers. We have been educating the buttermakers ever since I can remember and we have seen the average quality is deteriorating right along. We have been trying to educate the farmers every year. A great many farmers do not need education, they know their business, but the idea is to get them started. They know what to do, they know they ought to weigh their milk and test it, but they do not do it. They have got into a rut and keep in that same rut and what must be done is to try to make them break away from that rut, and one of the reasons that I am interested in cow testing associations is because if we once get them started they are going to improve and they are going to help themselves. That is what we want to do, we want to put the farmer in position where he can help himself.

How to Get Bees in Shape for Winter

R. F. Whiteside, Victoria Co., Ont.

The first of November sometimes finds bees like their unfortunate owners in a sad plight for winter. With bees, however, not unlike other things, attention is better late than never. If one has plenty of time to attend to them, bees can be doubled up if fed in numbers, or fed if light in stores. One plan of doubling is to get them clustered during the first warm spell that