

summed. A ram we once hired from the celebrated Jonas Webb, of Braham, Cambridgeshire, England, served 110 ewes, and was neither sick nor sorry afterwards!

Remember that well-saved pease-straw is far better for m-lambod ewes than the very best timothy hay.

Sow.—Keep all your pigs warm, but especially the late litters. No sow ought to pig after the 20th of September, for no animal on the farm is so susceptible of cold as a young pig. Far better sell late dropped ones as sucking-pigs, at a month old, than try to carry them through the winter. Porklings littered early in September, should be fit for the Montreal west-end butchers by New-year's Day, and, if fairly fat, but not too fat, ought to bring good prices. Don't let your well-bred sows get too fat, a fat sow rarely brings a strong litter of pigs. Curious, is it not, that the sow is the only female on the farm that keeps her reckoning—16 weeks—to the day, nay almost to the hour? A mare is generally pretty close to it, but a sow is accuracy itself.

Calne, England, Friday.—Present prices for prime pigs in lots of not less than 10, on rail within 100 miles of Calne:—

Prime store.	Thickness of fat in any part of the back	Price per sc.
Over 10 lb. to 10 lb. 2 1/2 in. and under	Not exceed 2 1/2 in.	9s. 6d.
Under 10 lb. 10 lb. 1 1/2 in. and under	Not exceed 2 1/2 in.	9s. 6d.
Under 11 lb. 10 lb. 1 1/2 in. and under	Not exceed 2 1/2 in.	8s. 2d.
Under 12 lb. 10 lb. 1 1/2 in. and under	Not exceed 3 in.	7s. 3d.

Any pigs outside these limits at their value. Sow, 6s. 6d. per sc. Half truck, 12 pigs; whole truck 25.—*Chas. and Thos. Harris and Co., Limited. They are particular in England.*—Ed.

The Dairy.

THE BATTLE OF THE BREEDS

The publication in the GAZETTE of the summary and results of the cheese-making trials at the Chicago Exhibition will come as a surprise to many, though some, who like myself, have been watching the reports of this and the butter-making trials from week to week will have been gradually prepared from the same. It amounts to this, that three breeds of cows—Jersey, Guernsey, and Shorthorn—have been during the month of May subjected to the most searching and thorough test yet carried out anywhere as regards their cheese-making powers, and the Jersey has come out top in every count, with the Guernsey second, and the Shorthorn last.

It is about the first time we have been brought face to face with the fact that Jerseys and Guernseys are cheese-making cows, at least, on this side of the Atlantic, and the matter wants a little study, and a little inquiry into the system of the trials, and the various points attended to. Only these three breeds were tried, for, though several others were originally entered—such as the Ayrshires and the red Polls—they were withdrawn for various reasons. This is a great pity, for though the result might not have been different, yet it would be of the utmost importance to know the relative value of all the recognised dairy breeds.

At the trial there were twenty-five selected animals of each kind, seventy-five in all, and the trial was conducted for fifteen days, during ten of which, cheese were made. The points noted in the trial were.—pounds of milk yielded, cheese made, whey made, live weight gain, value of

the cheese, value of the whey, value of the live weight, and cost of food. The value of the cheese was fixed according to the scale of points given in the GAZETTE. The point which at first puzzled me was how they managed to make the rich milk of Jerseys and Guernseys into cheese at all (Cheddar, I presume, though the variety is not mentioned), for I remember writing some two years ago, to point out, that very rich milk was not suited for cheese-making, owing to the difficulty afterwards found in the ripening of the cheese. Some one replied that he found no trouble in doing it, but refused to publish a description of his system. I have, therefore, looked, to see what percentage of fat there is in the milk of the cows, and I find that in the butter-making trials the following are the averages for June and July in the latest copies of Hoard's Dairyman to hand.—Jerseys 4.79, Guernseys, 4.57, Shorthorn 3.68. Now, while these are fair qualities of milk being higher as regards the Jerseys, and lower as regards the Guernseys and Shorthorns, than the average of the B.D.F.A. milking trials, yet they are not excessively rich when we compare them with the yield of many individual cows which with us have reached 9 per cent., and even 10 per cent., at the late trials at Norwich. It is therefore easily seen that milk of the quality yielded at the Chicago trials would offer no exceptional difficulties in the making of cheese.

It may be mentioned in passing that the Guernseys have yielded a higher average of butter fat than the Jerseys at our B.D.F.A. Show during the first ten years of the trials.

The result is certainly a feather in the cap of the Jerseys men, and will help to "loom" the breed more than ever, and will tend to revolutionise some of our ideas on this side of the water. In the light of these results "Cousin" Hoard thus criticises some of our British notions:—

"It is interesting to read in British exchanges the discussions going on in various dairy organisations, and to note how men put forward as established facts, notions that have passed current for years, but which have no foundation in fact. For instance, at a meeting of the Central Chamber of Agriculture there was a discussion on preventing the sale of skim milk as a whole milk, and the necessity of some legal standard of fat was talked upon and a Mr Rigby said:

"All who have handled milk were well aware that there was immense difference in it. The milk of Leicestershire contained more curds than that of Derbyshire. The milk of Channel Island cows produced more butter than that of Ayrshires, but the latter was best for cheesemaking."

"Looking at the statement in the result of the World's Fair contest, just decided, it would be pertinent to inquire wherein Ayrshire milk is better than Jersey milk for cheesemaking."

"It is true that milk low in fat content, whether it be of one breed or another, may be better put at cheesemaking sometimes than butter. This we will not deny, but that does not prove that it is better than good rich Jersey milk for the cheese vat. The economic question—whether milk had better be made into cheese or butter is one which can only be answered by the market rate for each and the economy of manufacture."

The last sentence pretty well sums up the whole matter. The Chicago trials are the fullest and most searching which have ever been carried out,

(1) In England.

but it is manifest there are "a great many things the ordinary dairy farmer has to consider besides those noted at these trials, and which cannot possibly be reckoned for in any trial short of actual ordinary farming. There are such things to be considered as the cost of the animals to begin with, their value when done with as milch-cows, their hardiness and ability to thrive on inferior pastures, their death rate, and so on. Then again there is the experience of each individual farmer with some particular breed, which counts for a great deal in his success therewith, and which would make it a very foolish thing for him to give up the animals he knows for ones which he does not know, no matter how much the latter may be intrinsically superior.

Our American friends have long ago pointed out that there is no such thing as a cheese cow, and that it is impossible to develop animals with a large proportion of casein in the milk, because this ingredient is nearly constant in all samples, but that in developing the butter fat which could be incorporated in the cheese, the total yield might be greatly increased. The Chicago results bear this out, for the Jersey, which was unquestioned as a buttermaker, is now shown to be prominent as a cheesemaker. I should greatly like to know if the system of cheesemaking pursued was the same as regards all the three breeds—that is, in such matters as quantity of rennet, temperature, acidity, and so on. Mr Rigby is quoted above as saying that Ayrshire milk was the most suitable for cheesemaking, and I have hitherto believed this also, not because of anything special about the chemical composition, but because the butter globules are small, and thus do not readily rise to the top as cream, or become expressed in the whey, but are retained in the curd without much trouble. On the other hand, Jersey milk with its large globules and large percentage of fat would give a considerable amount of trouble. I have known of even Ayrshire milk requiring to be skimmed before the cheese made would ripen properly in the old days anterior to the introduction of the Canadian system, and I therefore hope that some of the American authorities will give us some details regarding the actual making and ripening of the cheese of the different breeds. A great and exhaustive trial like this wants to have every little detail discussed and explained.

PRIMROSE MCCONNELL, B. Sc.

THE ADVANTAGES OF DAIRYING.

BY MRS. E. M. JONES.

I have been asked to prepare a paper on dairy matters, to be read before this, the first Farmers' Congress of the province of Quebec. I can hardly tell which feeling predominates in my mind; intense pleasure, at the honor done me; or a deep sense of the importance of this occasion. I need not enlarge upon my own diffidence—such remarks are an old story, but I will tell you why I respond so cheerfully to the call. When I was a child, I often went, with my companions, to gather wild strawberries; but sometimes they were scarce, and the search was tiresome. If a passing farmer said, "Children, I hear there are good strawberries in such a field, over yonder," we hardly trusted him, and did not always go. But, if one of our number,

who was actually picking berries, called out, "Come on, come here, this is a splendid place!" we just tumbled over one another in our anxiety to get there, and all shared in the good luck.

Now, I have found "a good place" in dairying, a great place and I want you all to come on, just as fast as you can, and share in my luck. My whole life has been spent in dairying, and after struggling through untold difficulties, and proving each step as I went, by dear bought experience, I have at last attained a brilliant success, and I want others, to share it. I look at it in this way.

The average cow of the country, makes 150 lbs. butter a year, which sells at an average price of 20 cts. In deed, I doubt if they do as well as this:

My cows produce from 250 lbs., all the way to 500 lbs. of butter a year, and sometimes, far more. All my butter sells at 35 cts. a lb. all the year round, at my own place. I have no express or freight charges to pay, and I do not even have to print it.

My dairy has become famous all through the States and through Canada, and I have now lying on my desk letters from Dairy Associations in Michigan, in Wisconsin, in Indiana, in Connecticut, Vermont, New York State, and the grand old province of Quebec, all urging me to come to their Dairy Conventions, and lecture on dairy-cows and butter-making. All these societies offer to pay my expenses, and most of them, offer a handsome sum in addition. While deeply sensible of the honor these gentlemen do me, and proud to tell you of it, I yet ask you to believe that I mention it in no spirit of boasting—far from it indeed. I mention it only to cheer on others, so they too may succeed, and make money. Do you realise what it means? Let us consider it. If we could actually double dairy products of our country, and also, get a higher price than we now do; and if, to do this, we need not keep more, but fewer cattle at less cost for feed, for attendance, and for barn room, would it not alter the whole aspect of dairy matters in Canada?

Just think of it—of all that it means to us? Why, England pays annually thousand and thousands of dollars, to Irish and Danish farmers, every cent of which ought to go into the pockets of the farmers of Canada. Let us change all this, and bring this trade to our own Dominion. We must increase our products and increase our profits too. And one great way of making more profit is, to follow the teaching of all great Dairy Schools and Colleges. They continually tell us to "Lessen the cost of production." How is this to be done? By starving our cows? Far from it. But by keeping a better class of cows, feeding and caring for them better, and using more skill and care in making our butter. We thus increase our output, and, at the same time, we lessen the cost of production. Do not think I advocate too high feeding, for that is almost as great an error as starving your cattle. Feed generously, and of suitable material, but find out each cow's capacity and feed her up to the highest point at which she pays for the feed, and not one bit beyond it.

In my herd, the usual grain ration for each animal in full milk, varies from 7 to 10 lbs. per cow, each day. This is composed of ground oats, ground peas, wheat-bran, and, occasionally, a very little oil meal. The ration is divided into two feeds and given night and morning, upon the silage. Should the silo be empty, the