

two cows were pretty evenly matched, so far as it relates to their weekly butter yield; but at the close of the winter's work there was a marked difference in their yield. Houston was still giving 1.6 pounds per week, while Ethel was giving only 1.1 pounds. During the period covered by this chart, Ethel gave 12.7 pounds of butter at a cost of 7.8 cents per pound, while Houston gave 210.5 pounds at a cost of 4.6 cents.

How are we going to tell the kind of a cow a calf will be? There is one point in a cow to look at first, and the same point in the calf, which is this. With the eye I measure the distance from the tail, about half way down from the rump, as it drops straight down to the rear line of the thigh, and the greater the distance between those points and the more curving the thigh the better the cow.

Lately we had a delegation of some eighty farmers, from Meeker County, to visit the Experiment Station. They went down into the live stock room and we brought in six cows, and as they had some doubts about our ability to discover the kind of a calf that would make the best dairy cow, we sent for the calves, and they were simply miniatures of the cows. Now, there are also many other points to be considered in the judging of a cow, but we always try to do away with the little details, laying more stress on fundamental principles, so that anyone with an eye can see for himself. When we have decided as to the disposition an animal makes of food, the next thing is,



TYPES OF DAIRY CATTLE—GUERNSEY.

how much work will the cow do from day to day, and that is measured by the depth from the middle of the body, the grist-mill that the animal carries, and the larger the mill, the greater the grist.

We hear a great deal about selecting cows by the Babcock test. I would rather trust my eye than the test; for this reason, the test will tell you what the cow will do for this day, or this week; but it will not tell you what the cow can do from year to year. (1) The Babcock test told me that Ethel was just as good as Houston, but it was not so. The Babcock test simply tells you what the cow did for that particular period, but it is silent as to the relative cost for the period of lactation, or as to the cow's staying qualities.

I don't want it to be understood that I am making any criticism on the Babcock test. I mean only to say this: That it is not good for everything, and not a reliable thing to select cows by. I am aware that few people have given this subject the attention that I have, and, of course, do not size up a cow as readily as I do, but the real foundation principles are just as plain as A B C, and by paying attention to them farm-

ers can soon be good judges of dairy cows.

I want to say just a few words on another point, and that is in regard to the wonderful opportunity which lies, at the present time, in the dairy business. Farmers do not understand the advantages they have in dairy work. If they did, I am sure they would pay a great deal more attention to it. Nine-tenths of the farmers seem to think that the dairy cow is a good deal of a nuisance, and yet there is not a single animal that returns to the farmer nearly as large a percentage of profit as the little dairy cow, and I am astonished that farmers spend so much time with other matters, and give so little to the cow.

I want to raise a warning voice on another point. I have never yet purchased a fine cow and removed her from her former surroundings, and had her do good work the first year. If she is an old plug, and has no fine nerves in her make up, she will not care where she is, and will be just as poor a cow the second year as the first year she was at the station, but as she became accustomed to her surroundings, and had good care and generous feeding, her digestive organs were developed, and got in good working order, she became contented, and produced 150 to 500 pounds of butter per year.

There were two cows in our herd that had been together all their lives, and had become very much attached to each other; but it became necessary to remove Fortune, one of them, and place her in another barn. As soon as Duchess found her mate gone, she began to hunt from stall to stall for her lost companion. She would go all over the pasture, looking through the clusters of trees, trying to find her. She suffered so much because of that separation, that she rapidly fell off in her flow of milk, in spite of all we could do. I went down to the other barn to see Fortune. She was glad to see me, but kept looking out of the window for Duchess, and she, too, had fallen off in her flow of milk. When these cows were together they would pass the whole winter without any perceptible change in their flow of milk. How careful we should be, not only to feed our cows properly, but to do everything in our power to make them contented and happy. Then only can we hope to get the maximum return.

I have here a little memorandum of the cows at the experiment station, covering the work done since about the fifth of last October.

Here is a cow that gave 14 1-2 pounds of butter at a cost for feed of 2.37 cents per pound. The last week in October she charged 45 cents per week for board, and gave 15 1-2 pounds of butter.



TYPES OF DAIRY CATTLE—HOLSTEIN-FRIESIAN. (1).

She gave me, the week before, 10 pounds of butter, charging 3 cents per pound.

(1) Why not say "Dutch" at once?—Ed.

Here is another cow, a little runt of a native. When I bought her, with other cows, the farmer thought she was not worth the space she would occupy in the car. She charged me, when she was fresh, only 2.6 cents worth of feed per pound of butter, and in January, only 5.2 cents per pound, and she is the poorest kind of a little scrub.

Here is a cow I was told would beat them all, weighing 1350 pounds. She gave ten pounds of butter when fresh, and six pounds at the end of January, at a cost of 4.13 cents per pound—a poorer showing than any of the other cows.—Report in Hoard's Dairyman.

Prof. HAECKER'S CHARTS.

Two of the charts used by Professor Haecker in his lecture on the cost of production are given below in the one table and a study of them on the lines indicated by the lecturer will put the reader in possession of much valuable dairy information. Here are groups I. and IV. of the experiments:

GROUP I.—BEEF TYPE, BLOCKY AND PLUMP.

Cow.	Weight.	Breed.	Lbs dry mat p. day p 1000 lbs. liveweight	Lbs. dry mat. p. 1 lb butter fat.	Lbs. of butter fat fr. 100 lbs dry mat.	Cent 1 lb. butter fat.
Fancy.....	1,256	Polled Angus	15.41	32.47	3.08	18.1
Dijo.....	1,215	Short-horn	14.61	32.36	3.09	18.2
Sully.....	1,219	Short-horn	19.96	28.94	3.45	16.4
Average.....	1,210		16.66	31.25	3.20	17.5

GROUP IV.—COWS SPARE AND ANGULAR WITH DEEP BODIES.

Annie.....	—	Jersey	25.80	21.68	4.61	12.8
Bess.....	—	Holstein	22.04	21.29	4.69	12.3
Bora.....	—	Jersey	22.33	18.11	5.42	11.1
Gertie.....	—	Grade Jersey	23.20	21.53	4.61	12.3
Houston.....	—	Jersey Guernsey	28.24	20.16	4.96	10.8
Patsey.....	—	Grade Jersey	22.20	22.27	4.49	12.6
Pride.....	—	Jersey	24.82	21.18	4.72	12.6
Rose.....	—	Short-horn	17.87	21.37	4.67	12.9
Roxy.....	—	Grade Jersey	23.52	21.91	4.56	12.4
West briar.....	—	Guernsey	25.65	23.06	4.33	12.8
Topsy.....	—	Holstein	20.91	20.04	4.99	12.0
Tricks y.....	—	Guernsey	26.46	20.88	4.78	11.4
Average.....			23.58	21.15	4.73	12.1

QUEBEC COLD STORAGE AND WAREHOUSE COMPANY

COMMISSIONER'S WHARF.

This company has now insulated space of 100,000 cubic feet; to cool it, they are putting in the most modern refrigerating machinery (that of the Lund British Refrigeration Coy). They will now be able in midsummer or any other time to keep the temperature down to 15° in any part, or the whole of their building. But it is the Company's intention to have the different rooms kept at different degrees of cold, in order to have everything in that temperature which is best suited to it, as butter at about 15°, and cheese at about 42°. The company is, however, also prepared to receive eggs, fruit, fish, dead meats and all other kinds of goods and merchandise; as their facilities are the best, and great care will be taken of all goods sent them.

There is no danger of anything being tainted, as the system is that of the circulation of purified and cold air, thus the air is always pure when entering the chambers, and is being constantly changed; gases and dust are also done away with, and the danger of fire is greatly lessened, for no coal or steam is used on the premises, the elevator and all the machinery being worked by electricity, the buildings are also lit with electric light.

The warehouses for cold, ordinary

and bonded goods are all situated on the Commissioner's Wharf, Quebec, where there are two lines of railway coming to the stores' doors, steamers and barges can land at three sides of the wharf, the roadway is also very good.

Butter and other goods intended for shipment to England are put into large chambers in the outer end of the building, from whence they are carried directly to the refrigerator steamers, which call every week, by means of a shoot specially adapted for the purpose.

The Company also has several small rooms, of different sizes, most conveniently situated, and kept at a temperature of 15° and lit with electric light. These rooms can be had at a low rent by persons wishing to keep dead meats, or for any other purpose.

The Company's charges are 12 1-2 cents per 100 lbs. of butter per month, and 5 cts. a box of cheese per month; insurance is made on goods, when requested, at the lowest cost as the Company carries large open policies.

Persons visiting Quebec are requested

to call and look over the works of the Company.

People who wish advances on their goods can obtain them as soon as they are placed in our stores.

BAD FLAVORS TRACED TO THEIR SOURCES.

Among the many excellent papers presented at the late meeting of the Wisconsin Dairymen's Association there was one of more every day, practical importance and help to the butter maker—especially the creamery butter maker—than the one prepared and read by Mr. Geo. D. Mansfield, of Edgerton.

The topic assigned him was the "Effect of milk upon the finished product," but modestly disclaiming any knowledge upon the relation of bad flavors in milk to the resulting cheese, he narrowed his subject and read as follows:

THE EFFECT OF MILK FLAVOR ON BUTTER.

It is a well known fact that the flavor of the milk, furnished for butter making, has much influence on the flavor of butter. In my capacity as a buyer of butter and judge of butter manufactured at our company's creameries, extending over the last six years, I have discovered to my satisfaction that with few exceptions the foreign flavors found in butter are caused from