The Cost of Producing a Pound of Butter.

BY F. J. S.

We do not write upon this subject without some idea of the difficulty attending it. Our purpose is, largely, to open it up, and possibly, also, the mind of the farmer and dairyman. That our figures may be reasonably accurate, and may commend themselves to thinking men, we have supposed a basis for computation as follows :—

1. That a cow gives 5,000 pounds of milk annually.
2. That 200 pounds of butter is made from the milk, and that, in consequence, 25 pounds of milk make, on an average, one pound of butter.
3. That she milks nine months.
4. That to deduct the value of the skim-milk and buttermilk from the cost of the whole milk, and debit the butter with the remaining cost, is a proper method of calculation.

The value of these by-products we have placed at 20 cents per hundred pounds, which we think a safe figure.

We present our subject under the following heads : *(a)* Cost of Grass Butter ; *(b)* Cost of Fall Butter ; *(c)* Cost of Winter Butter ; *(d)* Cost of the Year's Butter.

(a) COST OF GRASS BUTTER.

As all summer butter is not, strictly speaking, grass butter, we have considered this period as extending not longer than from May 20th to July 20th. We would further state that this computation throughout is based upon the general practice of having cows fresh in late winter or early spring. We have taken the first of April for convenience.

Feed--Pasture, 2 months, at $1.25 per month		$ 2 50
Labor—(Itemized below)		3 30
Milking (15 minutes per day), daily	.02½ cents.	
Caring for milk, washing utensils, etc.	.02 "	
Churning and marketing	.01 "	
Total per day	.05½ "	
Total for 60 days	$3.30	

All labor throughout we charge at ten cents per hour, board included.

Proportion of Cost of Feed During Idleness—The following ration may be considered a fair one for the three months, while the cow is not milking :—

Ensilage, 40 lbs. (at $1.50 per ton)	.03 cents.
Straw, 10 lbs. (at $4.00 per ton)	.02 "
Grain, 2½ lbs. (at ⅗c. per lb	1½ "
Total cost per day	6½ "
Total cost for 90 days	$6.00

The proportion of this cost to be debited to grass butter is ⅔ of $6.00, or $1.33. These, then, are debit items, but there is a credit item in the form of skim-milk and buttermilk.

We now offer a table of the calculated yield of butter for each separate month, which may be accounted sufficiently accurate for the purposes of further computation.

Month.	Yield, lbs.	Period.	Total Yield.
April	30 "	Spring	60 lbs.
May	30 "		
June	30 "	Summer	56 "
July	26 "		
August	22 "	Fall	60 "
September	20 "		
October	18 "		
November	14 "	Winter 24+60=84	"
December	10 "		
Total yield			200 lbs.

The milk production for the summer period will then be 56x25 (pounds butter by pounds of milk required to make a pound of butter) or 1,400 pounds. As the total milk, minus the butter, will be approximately the sum total of skim and buttermilk, 1,400 - 56 = 1,344 pounds, will be the by-products ; 1,344 pounds at 20 cents per 100 = $2.68. Our position is now as follows :—

Dr.—Feed, $2.50 ; labor, $3.30 ; proportion of food of idleness, $1.33 : total, $7.13.

Cr.—1,344 pounds skim and buttermilk, $2.68 ; cost of 60 days' butter (56 pounds), $4.45 ; cost of 1 pound of butter, nearly .08 cents.

(b) COST OF FALL BUTTER.

Period.—July 20th to October 20th—3 months—90 days.

Feed.—Grass, stubble pickings, etc., equal to one-half of total feed required, foots up 62½ cents per month, or $1.87. Forty pounds daily of green fodder, chiefly green corn, which we estimate at $1.00 per ton, costs a further sum of $1.80, and two pounds of grain daily, at ⅜ cent, equals $1.80.

Total cost of feed	$ 4 87
Labor (at $1.65 per month)	4 95
Proportion of keep of idleness (3-9 of $6.00)	2 00
Total	$11 82
Value of skim and buttermilk, 1,440 lbs. at 20c., equals	2 88
Cost of 90 days' butter (60 lbs.)	$ 8 94
Cost of 1 pound of butter (nearly)	.15c.

(c) COST OF WINTER BUTTER.

November, December, April, and May—4 months—120 days.

The following ration for three months can hardly be considered excessive :—

Ensilage, 40 lbs. (at $1.50 per ton)	.03 cents.
Hay and straw, 10 lbs. (at $6.00 per ton)	.03 "
Grain, 6 lbs., at ⅜c. per lb	.04 "
Total cost of daily ration	.10 "
Total cost of 4 months (120 days)	$12.00
Labor (at $1.65 per month)	$ 6 60
Proportion of feed of idleness	2 66
Total cost for four months	$21 26
Value of by-products, 2,016 lbs., at 20c	$ 4 03
Total cost of winter butter (84 lbs.)	17 23
Cost of 1 pound of winter butter	20½c

(d) COST OF THE YEAR'S BUTTER.

May-July	2 months	$ 4 45
July-October	3 "	8 94
October-December, April-May	4 "	17 23
200 lbs. of butter cost		$30 62
1 lb. of butter cost		15⅓c.
Cost of feed per cow per annum		$25 37
" milk per 100 lbs. (food alone)		58
" one lb. of butter (food alone)		12½
" " " (Minn. Station, U. S.)		10½

The latter is based upon an average annual product per cow of 6,400 pounds of milk, the cost of milk being, in their case, 62 cents per 100 pounds.

By way of summary we would state that in this computation it is well to remember that the cow is fresh April 1st. It would certainly be interesting to compute the cost of butter per pound from the fall cow did space permit. We recognize the immense variation in the cost of a pound of butter. Cows giving but 175 pounds annually would, upon a similar line of calculation, make butter costing nearly three cents per pound *in excess* of above estimates. Cows giving butter in proportion, for a period of ten and a-half months, would make a pound of butter for about three cents *less* than the above estimates. Without ensilage for winter feed, the cost of a pound of butter is frequently higher by four or five cents per pound.

In this estimate the labor is all paid for, but where the farmer has all his own help, and the farm is owned by him, then what is here debited as cost of labor will become rather return for labor invested, and to that extent a pound of butter is cheapened.

Butter Tests in Jersey Island.

On May 15th, the Royal Jersey Agricultural Society held their 3rd annual butter test, at which gratifying results were obtained. The entries numbered fifteen, out of which number eleven cows put in an appearance. Six of these made over 2 lbs. of butter each in a day, and two reached the large quantities of 3 lbs. 4½ ozs., and 3 lbs., respectively. The cows were stripped at 5 p. m. on Tuesday evening, and were milked for the test at 5.30 a.m. and 5 p.m. on Wednesday. The milk was weighed after each milking, and a sample was taken each time for testing by the Babcock tester. On Wednesday evening the milk was passed through a separator, and a sample of the separated milk was taken at once for analysis. Churning commenced at 7.40 a.m. on Thursday. Samples of the buttermilk were also taken for analysis. The lowest record was 1 lb. 4 ozs., and the highest, 3 lbs. 4½ ozs., with an average of 2 lbs. 3 ozs. in 24 hours. One noticeable feature of the test was the closeness with which the results of the churn agreed with that of the Babcock test, their being a slight variation in favor of the churn throughout the whole number of entries.

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Comb Honey.

As comb honey commands a higher price than extracted, special attention is due to its production. While it is well to put on a super before the flow comes, it is not well to do it so early as to run risk of chilling the brood. There are two circumstances which should govern in this matter : First, to have them on before the white clover flow commences ; second, before the swarming tendency shows itself strongly. When the first lot of sections are about filled, they should be lifted up and a second lot placed under them, and when these are partially filled a third lot should be put under the second ; this may be continued to the extent of four or five supers. It is necessary to watch the honey flow carefully, so that no more sections will be put on than will be filled and capped. Impatient bee-keepers are apt to make a mistake by removing the honey before it is ripe. As a rule, the longer it remains on the hive the better it is. Should dark honey commence to come in, the sections should be removed at once, in order to retain the finest quality. When it comes to removing supers, E. T. Abbott, in the American Bee Journal, states that he has found the use of a bee escape an absolute necessity. It is a great satisfaction to slip one of these little "machines" under three or four well-filled supers early in the day, and at night find the bees all out, and the honey uninjured by not having little holes bitten in the cappings, as is sure to be the case if removed by any other process.

Now that the honey is secured, it is well to look carefully after the marketing of it. The appearance of the goods when offered has much to do with the price obtained. The first thing necessary is to see that the honey is carefully sorted. It should then be thoroughly cleaned, and put into neat, white crates, and have every crate contain the same grade throughout, so that the front layer will be a true index of every section in the crate. If this is done conscientiously, and the crates stamped with the producer's name and address, that man will not have to go begging for customers.

In this connection a quotation which Mr. Abbott uses fits in well : "Carelessness is the costliest habit one can fall into ; and trickery, while it may succeed for a time, must cost more than it comes to in the end."

Work for June.

BY JOHN MYERS.

June is one of the busiest months of the year for the bee-keeper, and more especially so if he has not previously got his hives all made up and painted, with frames ready and foundation in them. Nearly all the honey gathered in Ontario will be taken in this month and next, and it behooves us to see that the bees make the best of their time. No colonies should be allowed to loaf their time away for want of room. If you are running for extracted honey the upper stories may be put on as soon as the bees commence to hang out at the entrance, or show other signs of needing more room. Colonies intended to gather comb honey had better not be let into the sections until they commence to build new white comb along the lower side of the top bar of frames, as when sections are put on we want the bees to commence to draw out the foundation as soon as they are let on to them, otherwise they will be apt to gnaw holes in the starters, and probably tear them completely out. But we must use the strongest colonies we have to work in sections ; so how are we to give them more room before we are ready to let them into the sections ? Well, the plan I follow and like very much is, when the colony gets strong and in need of more room, to put on a half-story, which generally gives them plenty of room until the honey begins to come in. After they have commenced storing in this half-story fairly well, I raise it up and place a case of sections underneath. In nine cases out of ten the bees will commence to work in the sections at once, while if the sections had been placed on top before they commenced working in the half-story, they would not start in the sections until the brood chamber was filled up with honey, and they were compelled to go somewhere else to find room. Then there will be swarms to hive and look after. It is always best to have the hives for new swarms ready, and placed on their stands, with foundation or combs in them, so as to have as little trouble as possible when the swarm issues. There are several methods of handling swarms. The one I like best, when a person can always be sure of being present when the swarm issues, is as follows :—Previous to swarming time I hunt up the queen, and clip one of her wings; then when the swarm commences to come forth I go with cage in hand and look in front of hive, where the queen will generally be found hopping around on the ground trying to fly. I place the cage over her, and when she runs up into it, I lay it somewhere out of the way, or put it into my pocket; then, after the bees are all out, I move the old hive to a new location, and put the new hive that I have prepared to receive the swarm in the place the old one occupied. Now, place the cage containing the queen on the alight board. After the swarm has flown around in the air for a time and find their queen is not with them, they make for their old home, but, in the meantime, we have changed it for a new one. On finding their queen there, they will all cluster in front of the hive, when I release the queen and let her run into the hive, and the bees follow, when your swarm is hived. The only drawback to this method is that if you are not on hand at the time the swarm issues the queen is apt to get lost. But whatever method you use of hiving swarms, always put the new swarm on the old stand, unless you want them to swarm more than once. If the swarm is placed where the old hive stood, all the bees that have ever been to the field to work will return to the old stand. This makes the swarm strong, and reduces the number of bees in the old hive to such an extent that they give up the desire to swarm again. Of course, by this plan, you will not get much honey from the old hive, but the swarm will be so strong that they will gather enough more to fully make up for the loss in the other one.

A great deal of opposition was developed in Massachusetts against the tuberculin test crusade. The State Senate finally amended the Tuberculosis Bill, so that it forbids the use of tuberculin by inspectors without the consent of owners, unless the cattle have been pronounced tuberculous on physical diagnosis. The appropriation for the war against tuberculosis was cut down over one-half. On this point the British Live Stock Journal says : "We shall have a good deal of similar opposition in this country if there should be an attempt to compel the slaughter in wholesale fashion of cattle as the result of the application of the tuberculin test, until much more is known about the operation of that specific than is the case at present."

Says the American Agriculturist, in pointing out the folly and shortsightedness of making "filled-cheese" :—"To-day a common occurrence is to see on the bill of fare of first-class hotels, and restaurants, dining cars, etc., the legend *Canadian Cheese*. One never reads on such lists of New York, of Ohio, or of Wisconsin cheese at all. This poor-cheese business was a cheat and a fraud, and in the end has punished its promoters as well as those who have not practiced this method of trying to get rich fast." The lesson we would deduct is to keep up the good name of our goods as high as possible. The higher the better.

The future height of a newly-born foal can be fairly accurately estimated by doubling the length of the fore limb from the fetlock joint to the point of the elbow.