

the creamery. It would look as if these conditions might be remedied. We are aware that it costs money to haul cream and that the oftener the cream wagon goes over the route the greater the expense, but are we not losing as much, or more, in smaller price received for the butter than will cover the extra cost of haulage in most cases? Better roads and the use of the auto-truck, look to be methods whereby hauling costs may be reduced. Creamerymen everywhere are, or should be, interested in the movement for better roads. We do not seem to be making much progress on the road question, but constant agitation and education will gradually bring about this much-needed reform.

Horse labor is becoming more and more expensive for road work. With the perfection of the motor truck and the improvement in country roads, we may look for that condition which will enable the farmer to have his cream delivered in a sweet condition at the creamery, not less than three times a week in summer, and twice a week in winter. This will allow the buttermaker to pasteurize the cream, ripen it with a pure culture and in this manner overcome most of the difficulty and disarm the criticism, regarding stale-flavored butter.

The foregoing, combined with cream-grading, and paying a higher price for the good cream, would seem to be the lines along which we must proceed in order to secure a place in the sun of a reputation for good butter.

Quebec has taken the lead in making the grading of cream compulsory and Ontario may well consider whether she should not follow the example set by a sister province. Ontario appears to belong to that family of "fearful souls, who stand shivering on the brink afraid to venture in," on some matters, although she has usually been foremost in those things which make for the welfare of her people in agriculture in general.

Our leaders seem in doubt as to methods of grading, some favor making the standard general and leaving the question of grades largely to the judgment of the buttermaker. This is no doubt the easiest plan, but it seems to the writer as if something more definite were needed as a guide or standard, in case of doubt or appeal. Without a standard of fat and acidity, which are things that can be exactly determined or measured and are not things of judgment, we shall not get very far, though it may be necessary as a "starter" to adopt something simpler. It might not be necessary to apply the standard too strictly at the beginning but eventually we shall have to rely largely on those qualities in cream which can be measured with accuracy. As a suggestion, we venture on a standard of 25 per cent. fat and not over 25 per cent. acidity, flavor good, as grade 1. All under this to be grade 2, or rejected. The flavor question adds complications, because there is no standard for flavor which can be accurately gauged. In this case, every man is largely a law unto himself, which necessarily results in more or less confusion.

SALT.

A general complaint with reference to much butter is that it contains too much salt and that it is not salted evenly. This is something which can be easily remedied, especially the condition of too much salt. It is far better to err on the side of light salting, rather than overload the butter with salt so that the true flavor of the butter is hidden by the salty flavor. This high salting might be advisable with bad-flavored butter, but we ought not to make such. On the average not over 5 or 6 per cent. salt should be added, which will leave 2½ to 3½ per cent. salt in the finished butter. In no case should the butter, as prepared for market, contain over 3½ per cent. salt. The general taste is not in favor of heavily salted food products. This belongs to the age of "salt pork and potatoes" as a chief diet for human beings.

In order to obtain uniform salting the weight and test (per cent. fat) of each churning of cream should be at least approximately known and the salt added on the basis of the fat content of the cream. Guessing at the weight of the butter in the churn is a very poor way to salt butter correctly and uniformly. The guessers ought to be eliminated from creameries as buttermakers.

MOTTLES AND MOULD.

Mottles are largely caused, either directly or indirectly by improper salting and hence another reason for care when salting butter. If troubled with mottled, streaked or wavy butter it is better to work the butter twice—once very lightly after salting and again in a few hours. This makes extra labor but if the mottles persist, the remedy will be worth the cost.

Mould is caused by spores (seeds) of minute plants, which thrive in damp, dark places. The creamery should be thoroughly cleaned and sprayed with formalin or some other mould destroyer, before work begins in the spring, more particularly where the butter is stored. The parchment paper should be soaked in brine, or formalin, or both, before lining the boxes to kill the mould spores. Saltless butter is much more

likely to become mouldy than is salt butter, hence greater care is needed in the preparation of boxes and parchment paper for holding unsalted butter.

MARKETING AND STORING.

The time has come when we should consider the question of food products for human consumption from a national viewpoint. The question is so important that we can no longer view it from a selfish point of view. We are confronted by the following fact—at certain seasons of the year we have a surplus of food products; at other seasons we have a condition of scarcity—in this case, a scarcity of butter, and are obliged to import butter to fill the requirements of our home market.

Considering these facts, has not the time come when the people as a whole, should make provision to store the surplus under suitable conditions for the time of scarcity which comes regularly with the winter season? This is a big question, involving many interests and is apt to be regarded with narrow vision, but it will be necessary to get away from all this, if we should be able to place this question on a sound national basis. This means building national cold-storage for perishable products like butter, and proper supervision which savors somewhat of "militarism" but better this than face the danger of starvation or exorbitant prices to the consumers at a time of scarcity, at the same time, the producer receives very low prices under present conditions.

Looking at the creamery industry as a whole, especially in conjunction with our live stock for which skim-milk is almost a necessity when young, the prospects for 1915 look good. Old butter is practically all cleaned up and new goods are eagerly awaited in both home and British markets. The price of butter at the beginning of April is exceptionally high and we have not yet heard of buyers "knocking" the price. All this is favorable. We enter the new season with confidence. But let us all try to improve the quality of the butter produced in the creameries of Canada during the coming summer. This means co-operation between milk and cream producers and manufacturers of butter.

O. A. C.

H. H. DEAN.

Two Good Records.

Illustrated in this issue are two Jersey heifers owned at the Central Experimental Farm, Ottawa. These heifers made exceedingly good gains and their net returns are worth noting.

Brampton Blue Duchess, 1504, at third calving and 4 years, 42 days shows in Record of Performance—Official Production, 9,775 lbs., milk testing 5.25 per cent. fat—514 lbs. fat in 365 days.

Herd Record between calvings as a four and five-year-old:

Number of Days in Milk	376 days.
Milk Produced	9,726 lbs.
Butter Produced	619.4 lbs.
Value Butter at 30c	\$185.82
Value Skim-milk	\$18.39
Total Value of Product	\$204.21
Meal Consumed	4,186 lbs.
Roots and Silage Consumed	7,585 lbs.
Hay Consumed	2,853 lbs.
Green Feed Consumed	3,700 lbs.
Total Cost of Feed	\$76.78
Profit over Feed	\$127.43

Brampton Oakland Trial (Imp.), 1450, at third Calving, 3 years, 317 days. Record of Performance—Official Production 9,082 lbs. milk testing 6.36 per cent. fat—577.6 lbs. fat in 365 days. Herd Record between calvings as a three and four-year-old:

Number of days in Milk	417 days.
Milk Produced	9,674 lbs.
Butter Produced	765.3 lbs.
Value Butter at 30c	\$229.60
Value Skim-milk	\$18.04
Total Value of Product	\$247.64
Meal Consumed	4,209 lbs.
Roots and Silage Consumed	8,360 lbs.
Hay Consumed	3,039 lbs.
Green Feed Consumed	3,700 lbs.
Total Cost of Feed	\$78.75
Profit over Feed	\$168.89

Prof. Archibald writes that he considers these two heifers have under very normal conditions, performed exceptionally well. They calved just previous to the loss of the buildings at the Experimental Farm, Ottawa, and received very poor housing and attention for the first three months of their lactation period. At no time were they given more than nine pounds of grain per day, and at no time were they milked more than twice per day. Had these heifers calved in the comforts of the new barn, and been given the treatment usually allotted to cows of this calibre, they would certainly have made some outstanding records. However, the records which they have are sufficient to prove that they are money-makers.

A Big Cheese.

It is said that the largest cheese ever made in the United States has been completed recently in New York State and is to be exhibited at the Panama Pacific Exposition. It is 4 feet 6 inches thick, and 6 feet 6 inches in diameter, weighing 11,000 lbs. It took 100,000 lbs. of milk to produce the cheese.

POULTRY.

These Hens Pay.

Editor "The Farmer's Advocate":

I read with some interest an article recently published in "The Farmer's Advocate" written by Howard A. Clark, of Northumberland County, on poultry and profits. I would certainly like to find a leaf out of Mr. Clark's book if it would teach me how to feed 50 hens for one year and raise 170 chickens fit for market on \$25.75 worth of feed, saying nothing about the feed that went to the 80 the hawks got. In the first place a flock that will only average 86½ eggs per year in my estimation is not worth bothering with. I think that Mr. Clark's poultry must have had access to the granary as well as the turnip bin or his feed bill would have been much higher. As for myself I might say I am not in the poultry business although I am keeping 150 birds especially for the eggs, 103 White Leghorns and 47 Rocks all pullets. I have fed mash once a day at noon constantly all winter very much the same proportion as Mr. Clark has been feeding, with no bad results. I am living on one acre of land so buy all my feed with the exception of a few roots so know just what it costs me. I bought my feed in bulk lots last fall, paying \$1.10 per bus. for wheat, a little less than 50c for corn, \$1.30 per cwt. for middlings, \$1.20 per cwt. for bran and 90c. per cwt. for oyster shell. At these prices it cost me a little over \$15 per month to feed my flock. Now the question comes: "Do they pay their way?"

Well, we sell our eggs at the country store for just the regular price and here is the result for the last three months:—

Jan. 129½ doz. at 30 cents	\$38.85
Feb. 174 doz., 30c down to 25c	48.70
Mar. 262 doz., 25c down to 16c	47.50
Total	\$135.05
Three Month's Feed	45.50
Profit	\$ 89.55

The prospects for April are much better.
Kent Co., Ont. JAS. ANDERSON.

HORTICULTURE.

See that the spraying outfit is complete.

Sprinkle a few ashes on the strawberry patch and if any bone meal or basic slag is available use it also.

Quality must be the aim of all fruit-growers. Uniformity in size, good color and freedom from disease or injury are the cardinal points.

For peach leaf curl, spray the trees shortly before the buds begin to swell with lime-sulphur. One gallon of commercial lime-sulphur to 9 gallons of water is recommended where an hydrometer is not available with which to test the strength of the mixture.

If the branches of the old apple trees are long and the fruit is borne far out on the limbs do a little pruning to encourage suckers and allow them to grow on the branches near the trunk in a very few years they will bear fruit and the tree will be strengthened and rejuvenated.

The Needs of Fruit Growing.

A speaker, George F. Lewis, at a fruit growers' meeting in Grimsby, Ont., lately, after a careful study of the industry in the Niagara district reached the conclusion that it was neither "Patriotism nor Production" that was lacking to spell prosperity, but the fundamentals of organization, co-operation, standardization and publicity. My plan is to organize—in a short campaign—the fruit-growers and shippers throughout the district in a parent association with subsidiary branches on a federated basis. The territory to be divided into seven or more districts. Each district to have representation in the central council or governing body. My plan is such that there will be no interference or change with the present manner of carrying on business. A grower will be free as he is now to ship direct or send his fruit through a shipping company. We need