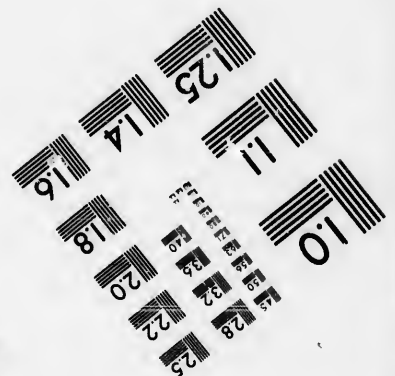
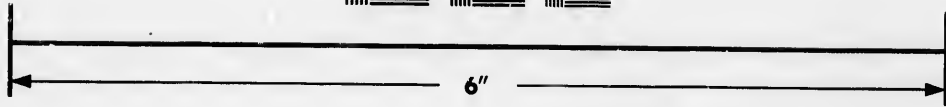
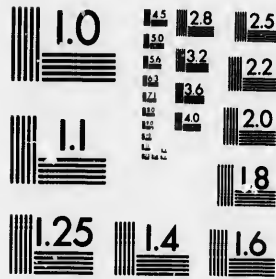


**IMAGE EVALUATION  
TEST TARGET (MT-3)**



**Photographic  
Sciences  
Corporation**

23 WEST MAIN STREET  
WEBSTER, N.Y. 14580  
(716) 872-4503

**CIHM/ICMH  
Microfiche  
Series.**

**CIHM/ICMH  
Collection de  
microfiches.**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

**© 1986**

Technical and Bibliographic Notes/Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/  
Couverture de couleur
- Covers damaged/  
Couverture endommagée
- Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée
- Cover title missing/  
Le titre de couverture manque
- Coloured maps/  
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur
- Bound with other material/  
Relié avec d'autres documents
- Tight binding may cause shadows or distortion  
along interior margin/  
La reliure serrée peut causer de l'ombre ou de la  
distorsion le long de la marge intérieure
- Blank leaves added during restoration may  
appear within the text. Whenever possible, these  
have been omitted from filming/  
Il se peut que certaines pages blanches ajoutées  
lors d'une restauration apparaissent dans le texte,  
mais, lorsque cela était possible, ces pages n'ont  
pas été filmées.
- Additional comments:/  
Commentaires supplémentaires:

- Coloured pages/  
Pages de couleur
- Pages damaged/  
Pages endommagées
- Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées
- Pages detached/  
Pages détachées
- Showthrough/  
Transparence
- Quality of print varies/  
Qualité inégale de l'impression
- Includes supplementary material/  
Comprend du matériel supplémentaire
- Only edition available/  
Seule édition disponible
- Pages wholly or partially obscured by errata  
slips, tissues, etc., have been refilmed to  
ensure the best possible image/  
Les pages totalement ou partiellement  
obscurcies par un feuillet d'errata, une pelure,  
etc., ont été filmées à nouveau de façon à  
obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below/  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

The copy filmed here has been reproduced thanks to the generosity of:

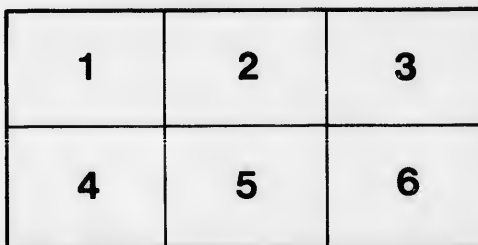
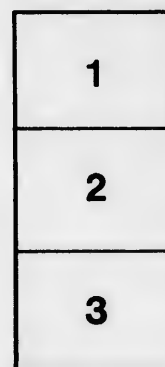
Library  
Agriculture Canada

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol  $\rightarrow$  (meaning "CONTINUED"), or the symbol  $\nabla$  (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

Bibliothèque  
Agriculture Canada

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole  $\rightarrow$  signifie "A SUIVRE", le symbole  $\nabla$  signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

ails  
du  
odifier  
une  
image

rrata  
o

pelure,  
à

32X



*Carefully Compiled,  
And Revised by Practical Dairymen.*

**GOOD BUTTER :**  
How to Make It.

**PRICE, 10c.**

Entered according to Act of the Parliament of Canada, in the  
year 1890, by Smallfield & Son, at the Department of  
Agriculture.

## INTRODUCTORY.

---

With the export of Butter from Canada to the old country falling off year by year—(from \$5,000,000 four or five years ago to \$64,000 in 1889); with large stocks of bad butter annually lying in the hands of country merchants and commission men, not saleable even at the low rate of 6c. or 8c. per lb., while there is far greater demand for really good butter than can be supplied at from 20c. to 30c. a lb., there need be no apology for issuing a pamphlet which aims to assist in improving the quality of the Butter made by Canadian farmers. Undoubtedly the best results in butter-making can be attained by the general adoption of the Creamery system—that is, by the making of butter in factories by trained men, the same as cheese is now made. But there are yet many sections of country in Ontario where the farmers live too far apart to make the Creamery system possible, and the private dairy must still exist. How best to make good butter in the private dairy is, then, the question. Many articles have been written, many pamphlets have been issued on the subject; but it seems that none so far issued treat of the whole subject in a concise form. Excellent pamphlets have been sent out free by the Governments; but they either touch only upon some particular portion of the process of good butter-making, or else deal with the subject at such length as to prevent many of those who most need their instructions from reading them at all or from understanding them when they do wearily wade through their pages.

The object of the writer of this pamphlet has been—to touch in a concise manner on all the points really necessary to be known by those who would make good butter. It has been carefully revised by practical good butter-makers; and if the instructions of the following pages are intelligently and fairly carried out, those who have been making an article of butter which brought 10c. or 12c. a lb. in the market may expect to turn out a grade which will bring them from 4c. to 8c. a lb. more.

bu  
ha  
an  
cle  
the  
bo  
tic  
ke  
co

an  
co  
an  
Fo  
Ay  
pic  
the  
car

car  
suc  
to  
mo  
tas  
of  
Do  
the

has  
Ke  
the

Chi  
sub  
thru  
ute  
of e  
car

# Good Butter : How to Make It.

## CLEANLINESS.

The farmer or the farmer's wife who wants to make good butter must above all things and through all the various processes have in mind this one idea of "cleanliness"—cleanliness of animals and their surroundings, cleanliness of feed, cleanliness of water, cleanliness of the milk-house, cleanliness of utensils, cleanliness of the package in which the butter is marketed. Milk and Butter are both very easily tainted ; and so those who would produce a good article and command a good price for it, must ever be on the alert to keep everything connected with the process in the cleanest possible condition.

## THE COW.

**THE BREED.**—If you are just beginning to go into dairying, and have to buy your animals, get good ones of good breed. It costs little or no more to keep them than it does to feed poorer animals, and they return ever so much more in milk and butter. For dairy purposes, you will not go far astray if you buy either Ayrshire, Jersey or Holstein. Each of these breeds has its champions among good dairymen. If you already have animals—any of the common grades,—you can do much to make them profitable by careful feeding and attention.

**THE CARE OF THE COW.**—In spring and early summer, be careful that she does not pasture where she can get near weeds, such as leeks, etc. Many farmers think that allowing the animals to feed on these things "does not matter." But it does matter most materially. (See note below.) Butter with the slightest taste of these rank weeds will not fetch in the market half the price of the pure article. Above all, don't let her drink impure water. Don't let her pasture on undrained swampy land. High land makes the best pasturage.

In winter, don't let her stand out-doors in the cold ; for then she has to keep up the heat in her body with extra food, at your expense. Keep her in a warm, well-ventilated barn. (If not well ventilated, the odors which gather in the barn will taint the milk as badly as

---

**NOTE.**—Lynch, in his "Scientific Dairy Practice," quotes a writer in the *Chicago Live Stock Journal*, who gives an instance where twelve cows were subjected to the scent of a dead calf that was lying twelve rods from the lane through which the cows passed. The exposure of the cows was but one minute twice daily, but the effect was to nearly spoil for cheese-making the milk of eighty-five cows with which the tainted milk was mixed ! As soon as the carcass was buried, the milk became good again.



the weeds and bad water.) Don't let her go to a hole in the ice to drink. Don't let her drink cold water at all. Heat the water you give her up to 70 degrees.

For winter feed, food treated by the ensilage process will give the best results. If you have not built a silo, and thus provided rich preserved food for the cow, the following is recommended as a good ration for producing milk : to be fed each day in two parts : 5 lbs. of bran, 30 lbs. roots, 5 lbs. meal (oats and barley or pease), 7 lbs. hay, 2 lbs. oil-cake and as much good straw as will be eaten.

Give her a little salt each morning. Don't leave the salt in a lump day after day, or where other animals can get at it ; but let her have it fresh and clean each morning. Twenty per cent. more milk can be obtained by the regular feeding of clean salt.

Treat her kindly. Don't let dogs worry, or boys abuse her. Excitement of any kind injuriously affects the quality of the milk.

Milk her regularly, at the same time day after day. Let one and the same person, as far as possible, take care of her and milk her.

### UTENSILS NEEDED.

THE DAISY CHURN is now generally recognized as the best butter-maker. It can be obtained from the manufacturers in London, Ont., or from almost any merchant or machinery agent throughout the country. It is made in different sizes.

A DAIRY THERMOMETER will also be needed. It can be purchased from almost any merchant, druggist or jeweller.

THE MILK CAN should be made of good tin, twenty inches deep and eight inches in diameter, with a small air-hole (about an inch in diameter) in the lid, covered with a piece of wire cloth. Each of these cans will hold about three gallons of milk ; or the milkings of two good cows. They may be called Creamer Cans. For a large dairy, a larger can, about the size of an ordinary cheese-factory milk-can, will also be needed ; in which to keep the different skimmings of cream until ready for the churn.

THE TANK.—Have a tank made, about 3 x 4 feet, and 20 inches deep. It can be made either of tin or wood, but must be water-tight. We call it a "tank" ; but any box of wood or tin, of the size mentioned, which will hold water, will answer the purpose. The use to which this Tank is put in keeping the cream at a uniform temperature, will be explained further on.

### THE MILK-HOUSE.

As will be seen further on, an important part of this process of butter-making is to keep the milk at a low temperature while the cream is rising. This requires ice. Consequently, a combined milk-house and ice-house is the best and most economical. The illustrations which we give will explain pretty clearly the kind of building needed. The farmer who does not want to go to the

GOOD BUTTER : HOW TO MAKE IT.

expense of erecting such a building, can, if he uses his brains, get along without it by using say a spare room in his house, which must be kept scrupulously clean, and the air in it sweet. For those who are determined to go into the matter thoroughly, though, and are willing to build, a study of the accompanying cut and diagram, and of the following instructions from *Hoard's Dairyman*, will make the matter of construction fairly easy :—

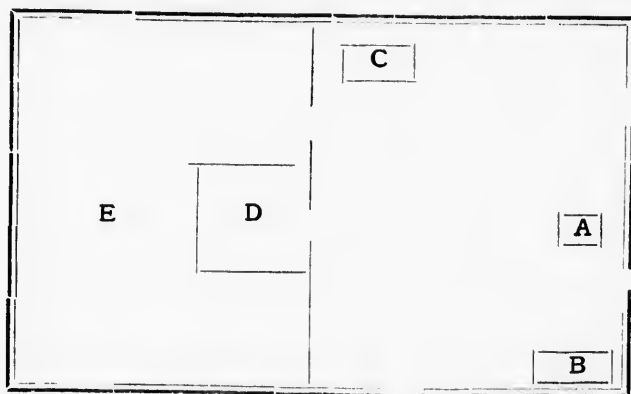
ED. HOARD'S DAIRYMAN :—A subscriber who thinks of building a small dairy for private use, just a room for keeping milk and cream and making a little butter, would be very thankful for suggestions through the columns of this valuable paper.

Rochester, N. Y.

“SUBSCRIBER.”

[If “Subscriber” has no rooms ready built that he can utilize in which to place cream, cream-ripening vat, churn, and stove, and one for ice house, then, a one-storey building 16 x 30 feet, with 10-foot studding will be ample till he is milking 40 cows,—if his duty to himself and his neighbors keeps him out of a factory so long.

The space of such a room we would divide in the center so as to make two rooms 16 x 15, outside measurement, one for make-room, the other for ice, and place it so the ice room would be on north end. On south side ice room, have small room with door opening into make-room for storing a small amount of packed butter to await day of shipment. This room to be entirely surrounded with ice, save on the door side. A room 5 feet square and high, is sufficient. We would make the side walls the same as for a silo,—boarded and papered to keep out both heat and cold. Studs 2 by 6 inches would be stiff enough for the height named. The make-room, 14 x 13 feet, inside measure, would be ample for stove, churn, and tempering vat, and for creamer; and that whether the latter was a plain tank for common shot-gun cans, a Cooley, or any of the cabinet creamers now used.]



A. Stove; B, Churn; C, Tank; D, Packing Room; E, Ice Room.

## CLEANSING THE UTENSILS.

This is a matter of much importance. It is best to clean the cans AT ONCE after the milk or cream is taken out of them. Do not use cloths, but get a good stiff brush, and scrub them well with soda (or pulverized borax) and slightly warm water. When this has been done, scald them with hot water, and let them dry themselves. Clean the churn in the same way.

## MAKING THE BUTTER.

Having milked the cows, strain the milk as quickly as possible from an ordinary strainer milk-pail—(one with the spout covered with wire cloth)—into the small Creamer Cans (that is, the 8 x 20 inch milk-can,) filling these creamer cans about three-quarters full. In summer, you put no water into these cans along with the milk; but in winter, stir into each can half-a-gallon of water at such a temperature that it will warm the milk till the thermometer marks over 90 degrees when put into it for a minute. Then place the covers on these creamer cans, and put them in the Tank, which must previously be nearly filled with water cooled by ice to 40 degrees. The cream will rise in these cans placed in this tank in about 12 hours in summer; or in from 24 to 36 hours in fall or winter. (The difference is in the quality of milk given by the cows in the different seasons.)

When the cream is risen, skim it off with a ladle; there being no harm done if a little of the milk at the top is taken, as it is the best of it.

As soon as it is taken off the milk, put the cream into the larger can, for which an ordinary milk-can will do very well; (or if the dairy is a small one, one of the Creamer Cans can be used for holding the various skimmings of cream.) If there is enough for a churning, put this at once into the milk-room at a temperature of 58 degrees in summer; or from 60 to 64 degrees in winter; and leave it for 36 hours, when it should be ripened (or soured.) If there is not enough cream from each skimming to churn, put the can (with the first milking's cream in it) into the same tank as the creamer cans, keeping it at the same temperature of 40 degrees. Then, when the next milking's cream has risen, pour it also into this cream can, mixing it thoroughly with the first cream, by means of a ladle long enough to reach to the bottom of the can. Mix it thoroughly once or twice more before you put in the next skimming; being careful that the ladle or dipper gets well to the sides and corners of the can. This frequent and thorough stirring allows the different skimmings of cream to ripen equally, and gives a better grade of butter. When you have enough cream for a churning, take the cream can out of the tank, and leave it in the milk-room at a temperature of about 58 degrees in summer, or from 60 to 64 degrees in winter, for about 36 hours: when the cream may be ripe enough.

Then, when the cream is ripe, prepare your churn by throwing

into it a little hot water. Give it a few turns, and then draw off the hot water by taking out the little peg at the bottom of the churn. It may be well, in the summer time, to cool the churn off after this with a little cold water, which must also be drawn off. Then strain your cream into the churn through a strainer of clean cheese-cloth. Test the cream with your thermometer, and if it is more or less than 58 degrees in summer (or 60 to 64 in winter,) add a little cold or hot water, as the case may be, till you get the cream to the right temperature. If you choose, pour a little good butter-color into the cream in the churn, about one or two teaspoonfuls to ten gallons of cream. Then put on the cover, and give the churn a few turns. Then stop and bringing the bottom of the churn to the top, take out the little peg, so that the gas which has been generated inside the churn may escape. (Let the gas off in this way, three or four times during the churning.) Then go on turning the churn, at about 85 turns to the minute. When cream is at 58 degrees in summer (or 60 to 64 in winter) or a little lower, and the churn goes at the above rate, butter should come in from 30 to 40 minutes; coming more rapidly in summer generally than in winter. There are different ways in which to tell when the butter is "coming." In the Daisy churn, there is a little circular piece of glass set in the cover. At the start of the churning, the cream adheres to this glass, but as the process goes on, the frothy cream will disappear from the glass, and in its place there will be a thin, watery liquid, which in turn gives place to particles of butter, which first adhere to the glass; but finally, as the grains become larger, drop off and leave the glass clear. The churning, as soon as the butter particles appear on the glass, should proceed more slowly. Now watch the glass very closely. This is a critical time. When the butter particles are about the size of clover seed, put in a quart of cold water (50 degrees or a little below) to every pailful of cream. This is done to completely separate the butter from the butter-milk. Then churn for about five minutes more; stopping when the butter particles are about the size of flax seed. [Here is where most butter-makers using the Daisy churn go astray. They churn too long, and get the butter into a mass, and consequently are unable to wash or salt the butter in the churn.] When the grains are about the size of flax seed, draw off the butter-milk by taking out the little peg in the churn, letting the butter-milk run through a tin strainer into a pail. [If the butter is right, not many of the particles will come out with the butter-milk. Those that do will be caught in the strainer, and can be put back into the churn.] Then put in about a pailful of good clean water moderated to 50 degrees; put on the cover, give the crank a few turns, and then let this water run off. Then put in another pail of water at the same temperature, give a few more turns, and draw off the water again. Wash again with two pails of water which have had half a pound of fine salt mixed in each; then draw off this pickle. Then sprinkle in an ounce of fine salt for every pound of butter—(you will soon learn to

estimate how many lbs. there are in the churn)—and give a few more turns. There will probably then be a little pickle left, which had better be drawn off. Then give a few more turns, slowly, until the butter is mixed into rough rolls. It will then be ready for packing.

### PACKING.

If the butter is to be sold fresh in a local market, press it at once into neat half lb. prints, touching it as little as possible with the hands.

If the butter is to be packed in tinnets, for sale for export put the new butter into a butter tub, and let it stand in the milk-room for twelve hours before packing in the tinnet. These tinnets should hold about 60 lbs., and should be made of white oak or ash, or Eastern Townships spruce.

To prepare the tub for packing, do not soak it at the well for several days, or under the drop from the roof, but soak it in butter-milk for five or six hours, pour this off, wash the tub clean and fill with salt and water, and leave it for a few hours. Change the brine then, and leave it for a few more hours. Rub with dry salt and put a little mixture of salt and saltpetre in the bottom of the tub before putting in the butter. It is good, also, to put a neat cloth over this layer, and then the butter on top of the cloth. Fill the tinnet within a quarter of an inch of the top, making the butter perfectly smooth. Place two clean cloths on the top, pressing them down from the centre to the edges to exclude the air, and pressing the edges down well. Then cover this with a composition composed in the proportion of 1 lb. salt, 1 oz. of white sugar, 1 oz. of saltpetre, and 1 oz. of borax, made with water into a paste. Fill it so that the lid will press it all, evenly.

Then sell it while it is fresh, at whatever is the going price. It will pay you to do this far better than to attempt any scheme of packing or storing.

If the butter is good, it will be well to put a label on each tinnet with the maker's name and date of making on it. The consumer will want more of the same butter, and the maker will be able to demand higher prices.

### NOTES.

The churn should never be much more than half-filled with cream, when churning is started.

In making butter for export, see that the butter-milk is well drained out of it before commencing to pack it. Butter with any trace of butter-milk in it, does not keep nearly as well as that which has been thoroughly worked out.

Before milking, brush off all dirt or loose hairs on the side of the cow, and see that the teats are well washed and wiped dry.

A great many beginners with the Daisy churn have encountered various difficulties and made certain mistakes. The most gen-

GOOD BUTTER : HOW TO MAKE IT.

eral trouble of all,—and the greatest source of “soft” butter—has been that of ripening the cream at too high a temperature. In summer, when taken from the cow, the milk should be brought down to 40 degrees or thereabouts, and never allowed to rise above 58 degrees, either in milk or cream state, till it is changed into butter. This is an important point. Read it over again.

One lady of our acquaintance, who had apparently done everything properly, found she constantly had soft butter. After careful investigation, the source of difficulty was discovered. She stripped her cow (the milk is then about 98 degrees) and for three days, night and morning, put it into the cream which she was ripening, thus raising the temperature of the cream up to 80 degrees or so, six times before churning (she churned twice a week), whereas the stripped milk should have been cooled down to 55 degrees before being put into the cream. When put in with the cream, it should be thoroughly stirred. This stirring should be repeated at least three times a day.

It is strongly recommended that the deep-setting creamer cans should be used instead of the old shallow pans. But if the old style pans are used, be sure to skim them before the milk sours—as no cream sets after souring has once commenced. See that this cream, also, never goes above 58 degrees in summer.

