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the labor and time expended in har-
vesting ice. The best time to get in
ice is now, during crisp cold weather,
while the ice is of good quality.

Creamery Department

Butter makers are invited to send con-
tributions to this department to ask ques-
tions on matters relating to butter making
and to suggest subjects for discussion.
Address letters to Creamery Department.

From Cow to Churn*

Prof. H. H. Dean, O.A.C., Guelph

It is very important that we un-
derstand the laws and principles of
any undertaking in order to insure
success. Theoretically the principles
of buttermaking from cow to cream-
ery churns are easily understood,
practically they are not so easily
worked out. To the man who never
owned, fed or milked cows, a pro-
duction of 300 lbs. butter per cow
looks as easy as "rolling off a log."
To the man who never made butter
in a creamery, the manufacture of
"concentrated sunshine" in the form
of delicious, sweet-flavored bread lu-
bricant is as easy as to say "Jack
Robinson." In practice, however,
cows have a fashion of disappointing
the reviving arm-chair farmer; while
many a man in making creamery
butter has congratulated himself on
his skill and judgment before he got
his returns from the commission
house, butter buyer or customer.

SOME OF THE PRINCIPLES

1. The use of pure-bred dairy sires
of butter producing ancestry which
have the power to produce an upward
variation in their progeny. In a
word, use tried mature males in pre-
ference to untried immature animals.
The practical difficulty to overcome
in adopting this plan is to be sure
that we are getting such animals and
that they are free from disease and
vicissitudes.

2. Rearing all the heifer calves
possible so far as stabling, feed and
labor will permit; testing the heifers
by means of scale and milk-fat test
and discarding all those which do not
come up to a minimum standard of
250 lbs. butter at the end of their
second lactation period.

3. Feeding the cows on milk-pro-
ducing foods such as grass, clover,
corn, mangels, oats, peas, bran, and
oil-cake, gluten or cottonseed meal.
Feed liberally of roughage and of
meals according to milk-fat produc-
tion—six to eight pounds of meal for
each pound of milk-fat. The profit-
ableness or otherwise of a ration can
be determined only by experiment.
Each feeder ought to be an experi-
menter with individual cows, as well
as with the whole herd.

4. Maintaining the health, vigor
and constitution of the cows by sani-
tary stabling, which means clean,
light, well-ventilated buildings, and
cows kept clean by the use of comb
and brush, or vacuum cleaners; and
a reasonable amount of exercise in
fresh air and sunshine.

5. Clean milking, with immediate
separation of a cream testing 25 to
35 per cent. fat together with cooling
of the same to a temperature of 50
degrees Fahrenheit, or lower, and
maintaining the cream at this tem-
perature; also the washing of the sepa-
rator after each time of using. At this
point the separate responsibility
of the cow-owner and cream-producer
usually ceases and the creamery owner
along with the cream-hauler or trans-
portation company assume a share of
the butter burden, except in cases
where the cream producer delivers
the cream to the creamery.

6. Given good, sweet or slightly acid

raw material, Canadian buttermakers
as a rule, are able to make fine butter,
if they have a sanitary building
equipped with modern machinery and
having an abundant supply of pure
cold water. We believe that the sys-
tem of pasteurization will eventually
be quite generally adopted by On-
tario buttermakers. Elimination of
poor flavors, more uniform salting,
and added keeping quality in the but-
ter are points which should receive
the careful attention of creamerymen
everywhere. Butter scoring not less
than 90 to 95 points should be aimed
at always and all the time.

Creamery Instruction in Western Ontario

Frank Hens, Chief Dairy Instructor
for Western Ontario

The instructors visited 92 cream-
eries. This is 10 more than last year
and is accounted for by taking over
five in the North formerly visited by
the Eastern Ontario Instructor. Several
plants in Toronto now make but-
ter and a couple of cheese factories
turned over to butter making, making
up the balance.

The quality of Western Ontario
butter showed improvement last year.
When we consider that practically
all of this butter is made from col-
lected cream, in many cases collected
two or three times a week and hauled
long distances, we believe that pro-
gress is being made. The print trade
has increased, while the home con-
sumption in Canada is growing every
year. Very little complaint was
heard of mould and nettles.

PATRONS VISITED

Patrons to the number of 17,971
sent milk and cream to the cream-
eries. This is 2,664 more than last
year. A great improvement in the
quality of the cream and consequently
the quality of the butter can be
brought about if the patrons many
of whom up to the present time have
not taken proper care of the separ-
ators or the cream, can be induced
to take more interest in this matter.
The instructors were able to visit
the farms of 323 patrons, going out
on the cream routes with the haulers
and using what little time they had
to instruct the patrons in the care
and handling of separators and the
cooling and care of the cream. This
is good work and in all cases brings
results, but with the large number of
creameries and the large territory
which the two creamery instructors
have to cover, it is difficult for them
to accomplish all that could be desired
among the patrons. We believe there
is room for one more creamery in-
structor who should devote all his
time to the farm side of the work.
Were arrangements made whereby
such a man could be engaged the re-
sult in the improvement of the cream
would many times repay the cost.

Six creameries only now use the
oil test; four less than last year. We
trust the time is not far distant when
the out of date oil test will be known
only in memory.

SCALES AND PIPETTE

Sixty-nine creameries use the pi-
pette in testing cream. Twenty-three
creameries use the scales; nine more
than last year. Several of these
creameries use the scales only when
selling cream. Why? There is now
placed on the market a 12 bottle
cream scale that is free from the ob-
jections raised with respect to the
balancing of some of the scales former-
ly sold for weighing cream samples.
Any argument therefore against the
use of scales cannot now be considered
of as much importance as formerly;
at least from the standpoint of scale
accuracy.

Have you forgotten to renew your
subscription to Farm and Dairy?



A POPPED QUESTION

Will you Buy a

De Laval

Cream Separator

or do with a poor imitation?

Why do practically all competing Machines imitate,
if not infringe, the De Laval patents?

SEND FOR CATALOG.

THE DE LAVAL SEPARATOR CO.

173-177 Williams St.

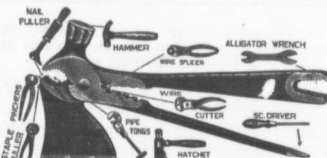
MONTREAL

WINNIPEG - - - VANCOUVER

FREE A Time Saver & Money **FREE**
 Saver to Farmers
10 PERFECT TOOLS IN ONE
 For a club of two new yearly subscribers to Farm
 & Dairy

Our Illustration Shows the Many Uses this Hatchet can be put to.

It is an ever-ready tool, in which is combined ten different distinct tools. It is a compact, clean-cut combination tool, scientifically made and balanced. The Hammer part is well balanced, and has just the right weight for heavy driving. The Hatchet is tempered to a degree of perfection, and will carry a keen, sharp edge. The Screw Driver is made to stand the twists and turns to which it is put, while the Alligator Wrench is fashioned after the regular sensitive plumber's great saving in itself. These together with the Nail Puller, Pinchers, Wire Cutter, Staple Puller and Wire Splitter, are all worked out on scientific principles, and are as perfect as they can be made. The Hatchet is a tool chest full of the finest grade of tools all in compact form. Any tool wanted for can always be found without loss of time. These ten tools would cost or you would run chances of getting some of the tools represented in the Hatchet



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& Dairy. Samples of paper sent on application to

CIRCULATION MANAGER
PETERBORO, ONT.

*Extract from an address before the W.
O.D.A. convention at Stratford, last week.