

VOLUME 17

NO. 9

September, 1954

Journal of

MILK and FOOD TECHNOLOGY

Official Publication

International Association of Milk and Food Sanitarians, Inc.

"Never Let it Get Dirty"



● We first reprinted these words more than 30 years ago. We have reprinted them many, many times since. We doubt that anybody has ever said so much in so few words—we doubt that anybody ever will. They tell the whole story.

● A Surge Unit can be snapped all apart in twenty seconds. A few seconds more and the pail, pail lid and rubbers can be buried in clean cold water. No milk can dry.

● Then . . . scrub with a detergent* and hot water. Rinse and sanitize* as required. That's all there is to it.

● The right way is the easiest, safest and surest way.

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Babson Bros. Co.

"The first and all important rule is: never let a milking machine get dirty. Milk is clean as it comes from the cow. It does not dirty the milker unless it is allowed to stay in the milker and dry on. Thus the first step in never letting the milker get dirty is to rinse it immediately after the last cow is milked, not 15 or 20 minutes later or after breakfast, but IMMEDIATELY."

Old Cornell University Bulletin

*We recommend:—Pfanstiehl #47 Detergent
Pfanstiehl HWD for hard water
Pfanstiehl LSH Liquid Sodium Hypochlorite

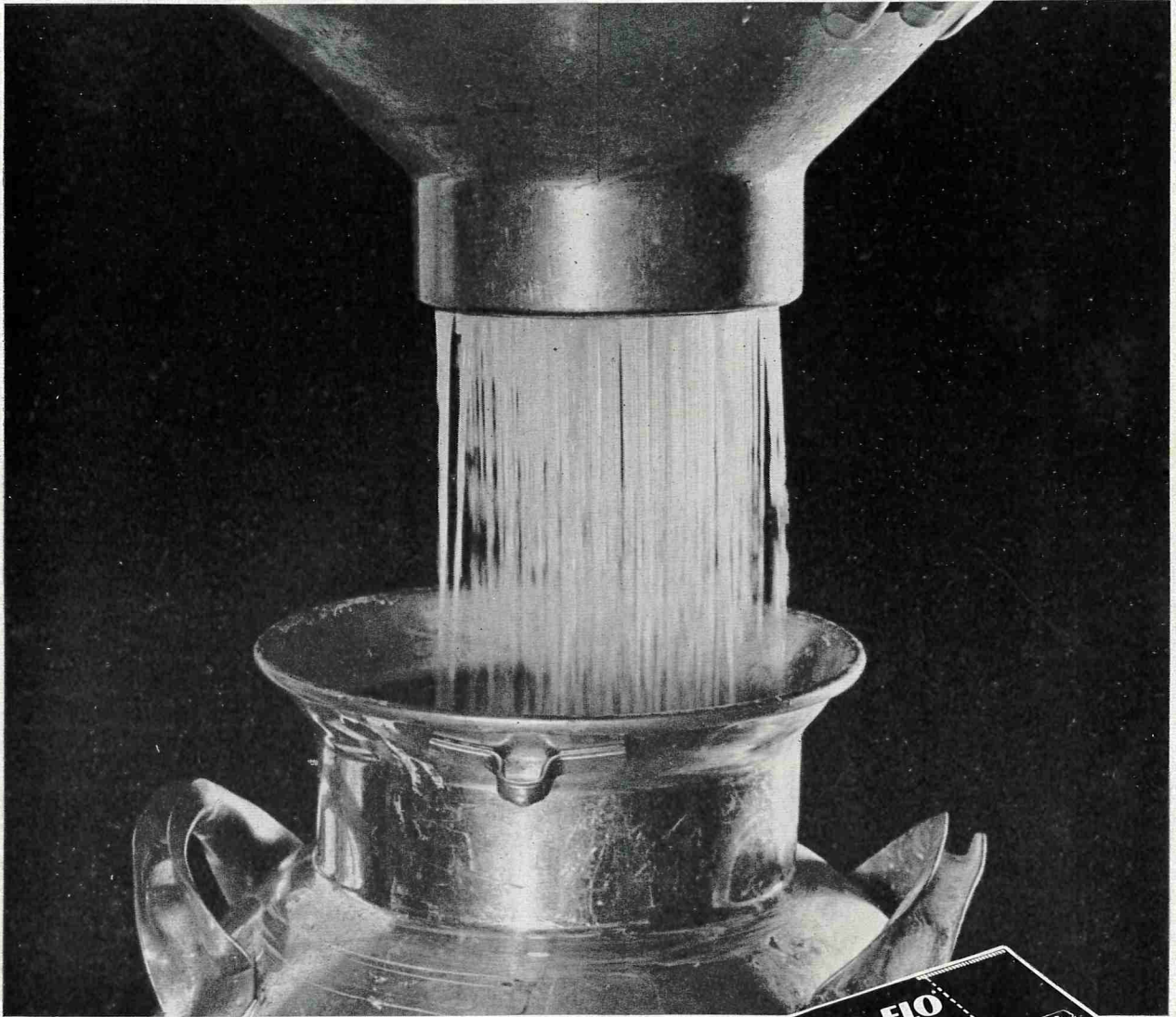


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2. To provide an effective visual aid for producing quality milk and cream.

A filter disk that's engineered for extra retentiveness . . . that's Fibre-Bonded for extra protection . . . will give the maximum filtration efficiency and insure a reliable Farm Sediment Check-Up.

Rapid-Flo Fibre-Bonded Filter Disks are the one filter disk that meets these specifications. They are the only filters backed by years of research and



testing by Johnson & Johnson scientists and technicians in the laboratory, in the factory and on the farms of America.

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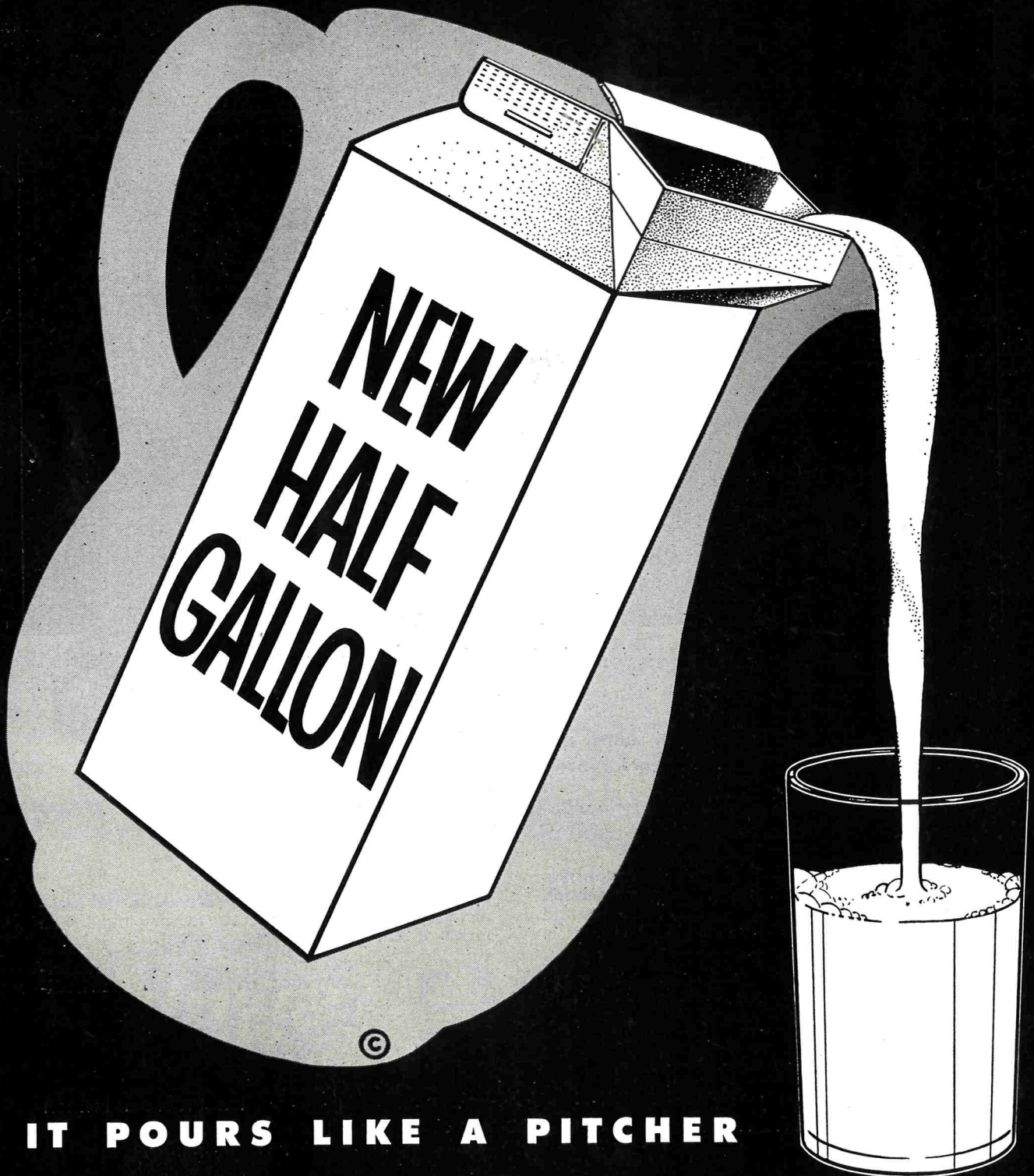


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FILTER PRODUCTS DIVISION

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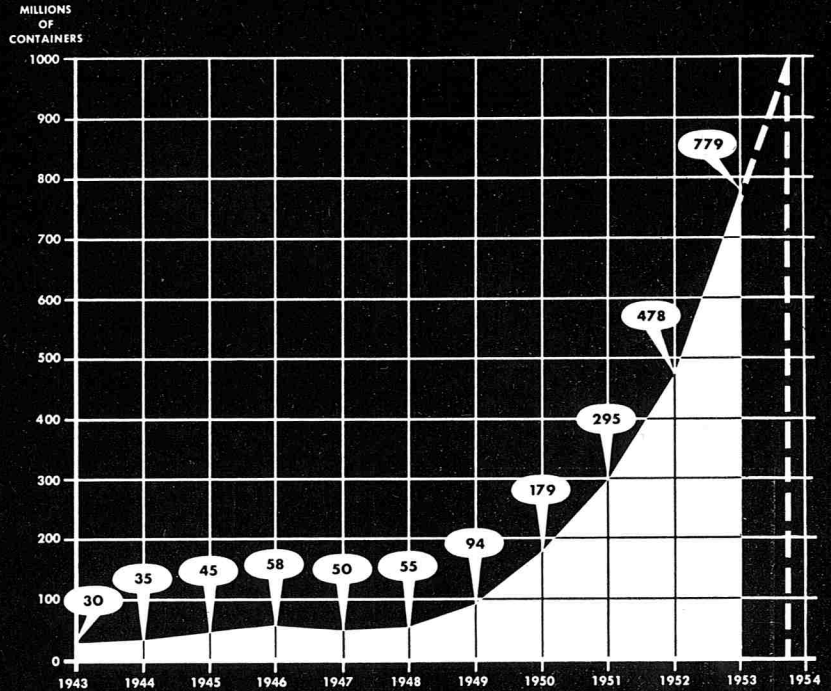


IT POURS LIKE A PITCHER

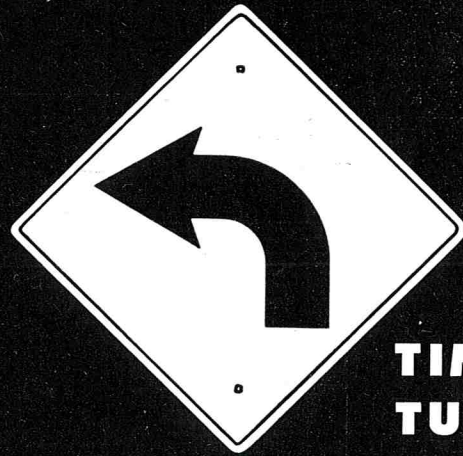
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**USE OF PURE-PAK
KING-SIZE
HALF-GALLON
UP
1300%
IN 5 YEARS,
1949-1953 . . . AND
STILL GOING STRONG**



The new Pure-Pak half-gallon is another *exclusive* for our dairy customers! It is one of the fastest growing milk selling developments the dairy industry has ever known! It's the spearhead in countless dairy promotions throughout the country today! . . . **And the Half-Gallon is only One of a complete line of lower priced Pure-Pak containers!**



**TIME TO
TURN...**

See you in ATLANTIC CITY

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YOUR PERSONAL MILK CONTAINER



1/2 pt.



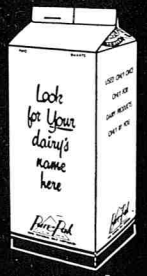
1/3 qt.



1 pt.



1 qt.



1/2 gal.

PURE-PAK DIVISION • EX-CELL-O CORPORATION • DETROIT 32, MICH.

now you're in the driver's seat

You're in the driver's seat, too, when it comes to getting processing vats from Cherry-Burrell. You can get practically anything you want. Our line of Round Processors is complete . . . with a model that's "just right" for your process—your product—your plant setup. For example:

What Size Do You Need? Cherry-Burrell Round Processors are built in 200 to 1000-gallon sizes.

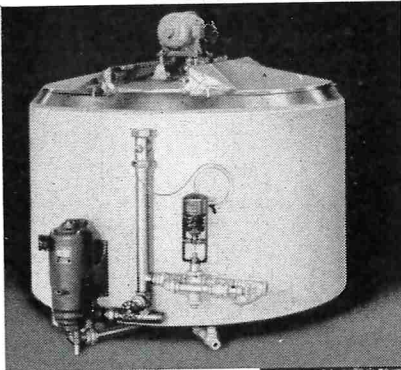
What Type of Heating? Two choices. (1) Spray heating with steam vapor or recirculated hot water. (2) Pressure channel heating with hot water or steam.

What Type of Cooling? Three choices. (1) Spray cooling with well, city, tower or sweet water. (2) Channel cooling with refrigerated water. (3) Combination direct expansion and pump spray cooling.

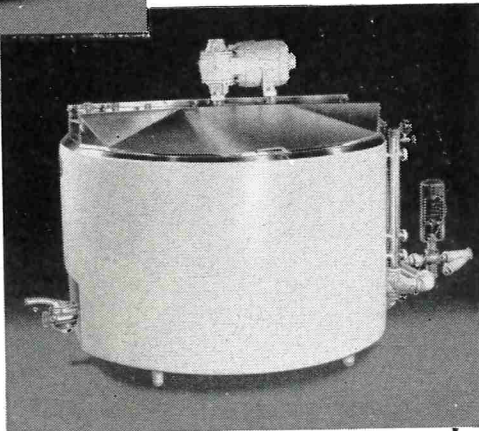
What Type of Agitation? Choice of two. Long sweep agitation for light-bodied products. Scraper blade for heavy-bodied, viscous products.

What Products? Buttermilk, chocolate milk, cream, cream cheese, evaporated milk, ice cream mix, market milk, skim milk, sour cream, sweetened condensed, superheated condensed.

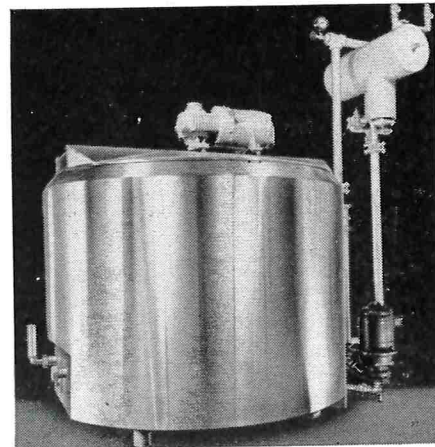
What Process? Heating, pasteurizing, cooling, mixing, blending, holding, refrigerated storing.



Model "WP" Round Processor — Spray heating with steam or hot water; cold water cooling; 200 to 1000-gallon sizes.



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Your Cherry-Burrell Representative can help you pick the Round Processor that's best for you. Call him or clip coupon.

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- Send Round Processor Bulletin.
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City..... Zone.... State.....

95% OF ALL MILK USED IN FAMOUS NESTLÉ'S PRODUCTS is filtered through *Perfection* DUBL - CHEM - FACED MILK FILTER DISCS

... says GEORGE L. MOSS, Nestlé's District Field Supervisor

... regarding our use of DUBL-CHEM-FACED milk filter discs:

We have used this disc for our patrons since they came on the market a number of years ago and we have had good results in all cases.

The disc itself is strong and does not "wash" as some other makes of discs do. The plastic faces on both sides of the disc not only filter but also reinforce the disc just as gauze on both sides does, yet gauze does not filter milk...only holds the cotton together.

Ninety-five percent of all the milk we buy is filtered through Perfection DUBL-CHEM-FACED Milk Filter Discs.

Another redeeming feature of this disc is the cost. It is much cheaper than the gauze-type disc. Since we advocate filtering not more than 10 gallons of milk through one disc, no matter what the make, we could show the dairy farmer that he really gets more for his money by using this improved disc after we decided to supply our patrons with Perfection DUBL-CHEM-FACED discs.

Yours very truly

George L. Moss
George L. Moss, District Field Supervisor
The Nestlé Company Inc., Marysville, Ohio.

3 filters*
IN ONE
at less
cost!



- *1 - The TOP face FILTERS ...
- 2 - The CENTER area FILTERS ...
- 3 - The BOTTOM face FILTERS ...

TO PROTECT MILK QUALITY
see that your producers use
Perfection DUBL - CHEM - FACED
MILK FILTER DISCS always!



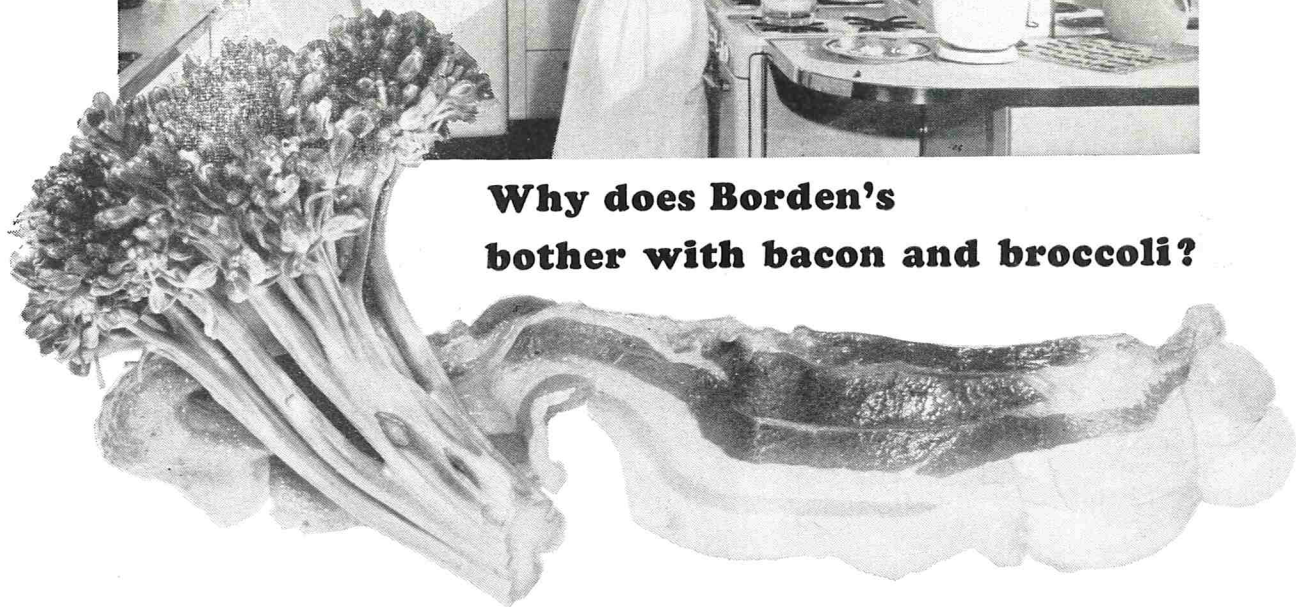
WRITE FOR SAMPLES



SCHWARTZ Manufacturing Company • "Perfection in Filters" • TWO RIVERS, WISCONSIN



Why does Borden's bother with bacon and broccoli?



- The Borden Company has always been vitally interested in how its products are used in the home. For that is where they must pass the most exacting tests of nutritional value and taste satisfaction.
- Because Borden's interest in milk, dairy items, instant coffee and its other food products goes beyond just the mechanics of processing and packaging, the Company established its own Test Kitchen a full quarter of a century ago. In this modern of modern kitchens, a staff of trained, graduate home economists develops and tests thousands of dishes typical of those served by the average American housewife.
- Here in Borden's Test Kitchen, new recipes are developed. Here, Borden products are tested to see how they meet homemakers' needs, how well they fit the daily menu. Varieties of muffins, some made with evaporated milk, some with dry skim milk, and some with bacon or bran. Cheese sauces for broccoli and cream sauces for fish. In all, a most tempting and nutritious array of dishes for every meal during the day, and for every course in every meal, from traditional hamburgers and ice cream, to more elaborate dainties for those "special occasions."
- Yes, Borden bothers with bacon and broccoli to help improve nutritional standards, and to help American housewives serve tastier meals. Any product bearing the Borden label is one you can use and recommend with confidence...For... "If it's Borden's, it's got to be good."

Manufacturers and distributors of BORDEN'S Instant Coffee

STARLAC non-fat dry milk • BORDEN'S Evaporated Milk • Fresh Milk • Ice Cream • Cheese • EAGLE BRAND Sweetened Condensed Milk
BREMIL powdered infant food • MULL-SOY hypoallergenic food • BIOLAC infant food • DRYCO infant food and KLIM powdered whole milk.

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250° F

260° F

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240° F

**hi-heat
process**

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220° F



ROSWELL
unit

nothing like it ever before in the history of pasteurizing milk, ice cream and other fluid foods

AMAZING BACTERIA KILL . . . takes place instantly to a near-sterile count.

HI-HEET . . . automatically controlled with choice of temperatures up to 300° F.

NO COOKED FLAVOR . . . homogenized milk processed at temperatures up to 250° F . . . no cooked flavor imparted.

IMPROVED FLAVOR . . . milk retains "fresh milk" characteristics . . . standard ice cream mixes have a new "creamy" taste . . . flavors such as chocolate acquire a new breadth of flavor.

PROVED BEYOND DOUBT . . . over three years of testing. Already in production use in several leading plants. Built to meet Public Health requirements and ASME code standards.

TERRIFIC MONEY SAVER . . . saves real money on maintenance parts and time. No rubber gaskets. Easy to maintain proper sanitation. Entire unit cleaned in few minutes time.

VERSATILE DESIGN . . . easily equipped with additional tubes for regeneration and cooling.

for such fluid food processing operations as pre-heating, pasteurizing and sterilizing

See this remarkable machine at the DISA Exposition in Atlantic City in October. Supplied in capacities and with instrumentation to meet your requirements. Here is equipment that offers not only improvement over older methods, but a fundamental solution to many of the basic problems in fluid food processing and storage. Remember, Roswell Units are proved machines, already in production use. Your inquiry for complete information is invited.

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Editorial Notes

EDUCATION OF THE PUBLIC IN FOOD SANITATION

Public opinion, like the mills of the gods, grinds slowly, but it grinds exceedingly small. Health workers in public service can no more ignore what the public thinks or knows — or don't know — than they can resist the action of the tides. Sometimes they try, and the results entail rough going.

One of the finest reports on a campaign to educate the public regarding a health measure is written up in the July issue of the *American Journal of Public Health*. Here, the Director of the Bureau of Dental Care, Baltimore City Health Department, shows that two years of educational effort were required to make the fluoridation of the water supply of Baltimore City possible. In brief, the steps were as follows:

The Baltimore City newspapers carried an account of the adoption by the American Dental Association of a resolution urging addition of sodium fluoride to public drinking water to help retard tooth decay. The city mayor requested the commissioner of health to report on the merits of the idea for Baltimore. This was promptly rendered. The press carried numerous news items, editorials, and letters, some of the latter pro and a few con. The local medical organizations supported the proposal, as did also the U.S. Public Health Service — all of which was "news."

The Commissioner of Health advised caution (a strategic masterpiece!) until more facts were available. These were furnished within a few months by the National Research Council. Opposition from a few honest doubters and religious fanatics was met with a persistent flow of factual information. Public hearings and court action further were encountered. Finally, after an injunction suit to prevent fluoridation was heard and dismissed, the treatment with this chemical was begun.

All this series of "backing and filling" follows a common pattern that has been experienced many times in seeking to advance the cause of public welfare. The following steps can be recognized generally:

(1) Problem is recognized by the competent officials but action awaits the proper time — the "ripeness of the

time" as Pasteur called it. (History is full of instances where discoveries, reforms, etc. were envisaged but "died aborning" because the public were not able to recognize their significance.)

(2) Some outstanding event like a scientific finding, an epidemic, or some other spectacular occurrence gets into the newspapers and arouses public interest.

(3) The interest of the public is kept alive by a judicious fanning of the incipient flame by the responsible authorities — but who must avoid any undue high pressure methods or impatient treatment of opposition.

(4) Legislation to authorize action is started.

(5) Hearings and legal contests can be expected to delay action.

(6) Patient feeding of facts to the legislators, the public, and specially affected groups — all the while, keeping the pressure on.

(7) Eventually action for authorization comes.

Earnest, energetic leadership may ruin the project. A leader may get so far ahead of his outfit (in this case, the public) as to lose contact — in which event, his leadership is worthless. Furthermore, patience and tolerance should temper vigorous and persistent pressure for action. In our experience we have found that the great body of public opinion can be depended upon, in the long run, to decide wisely, provided that it is lead, not coerced — convinced, not just persuaded.

The inertia of public opinion is an awesome phenomenon. It is slow to get started, but is irresistible in its sweep when it is finally awakened to action.

Food sanitarians should realize that there is much such action indicated ahead. The continued high incidence of food-borne outbreaks of disease (especially milk), the fluoridation of water, the organoleptic quality of foods as preserved and served, the air conditioning of eating places, the development of food engineering as a professional entity, new processes of food preservation, correction of anti-aesthetic conditions in our environment, legal reform — all these and others await remedial action. To get this done, the food sanitarians must know his science, his law, his public relations, and above all, his knowledge of and respect for people — just plain folks.

J. H. Shrader

*"How Fluoridation Facts Were Presented to the Citizens of Baltimore, Md." by H. B. McCauley. *Amer. J. Pub. Health*, 44, 892 - 96 (1954).

NOTICE TO MEMBERS

PLEASE, SEE RESERVATION BLANK FOR ANNUAL MEETING ADVERTISING PAGE IX
AND PROGRAM IN THIS ISSUE PAGE 294.

FORTY-FIRST ANNUAL MEETING
HOTEL MORTON — ATLANTIC CITY, N.J., OCT. 21-23, 1954

**SUPPLEMENT NO. 1 TO THE
3A SANITARY STANDARDS FOR THERMOMETER FITTINGS AND CONNECTIONS
USED ON MILK AND MILK PRODUCTS EQUIPMENT**

*Formulated by
International Association of Milk and Food Sanitarians, Inc.
United States Public Health Service
The Dairy Industry Committee*

In keeping with the provisions of the 3A Sanitary Standards for Thermometer Fittings and Connections used on Milk and Milk Products Equipment, this supplement hereby incorporates the following fittings into this standard:

	PAGE NO.	3A DRWG. NO.
3A7 Thermometer Well (Short) for indicating and recording thermometers on milk storage tanks	11	3A-101-09
3A8 Thermometer Well (Long) for indicating and recording thermometers on milk storage tanks	12	3A-101-10

APPROVED BY:

C. A. Abele
C. A. Abele, Chairman - CSP of IAMFS

7/29/54

J. D. Faulkner
J. D. Faulkner, Chief - MFS-USPHS

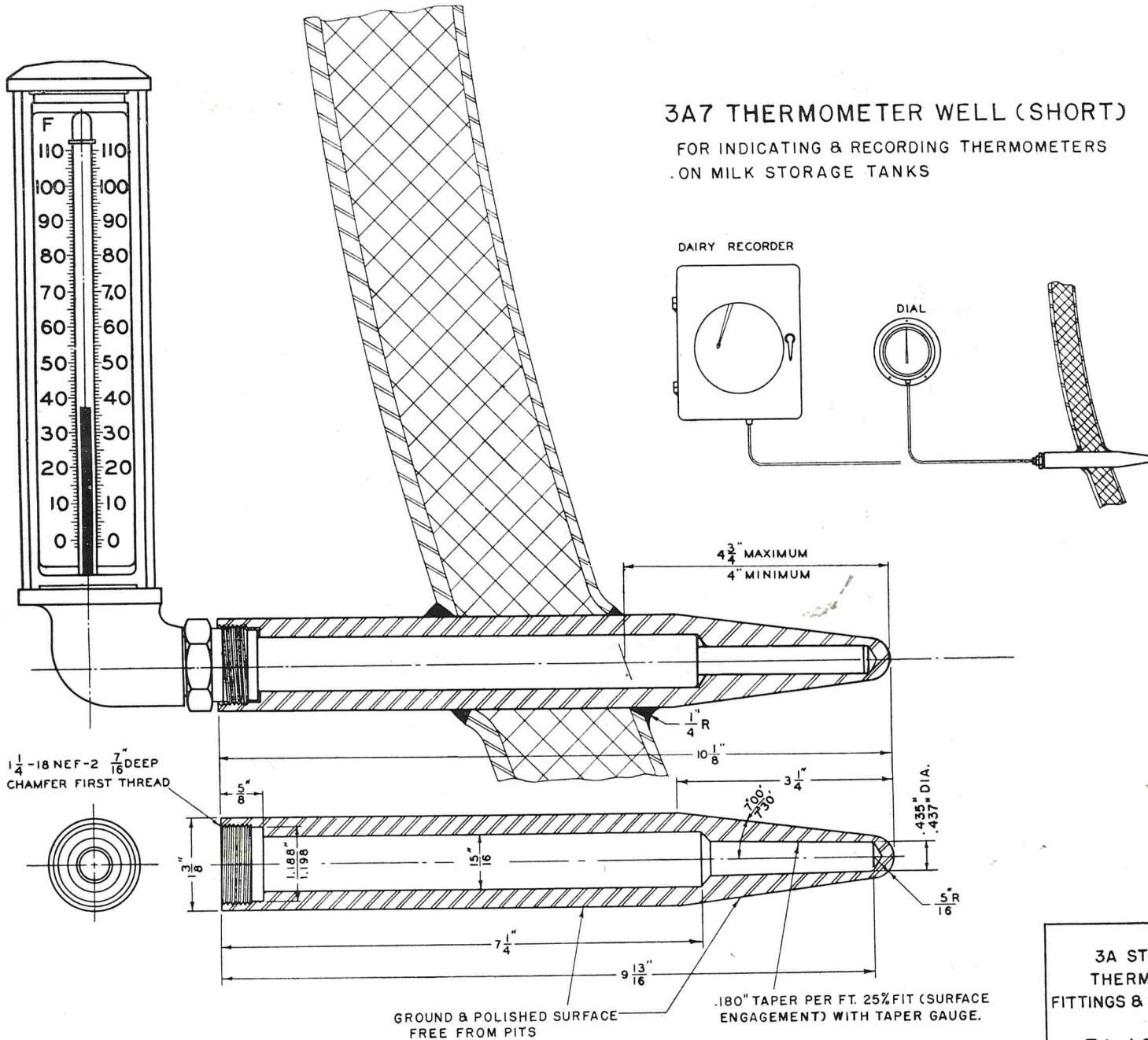
7/20/54
Date

E. H. Parfitt
E. H. Parfitt, Chairman - SSS-DIC

7/29/54
Date

G. W. Putnam
G. W. Putnam, Chairman - Tech. Committee DISA

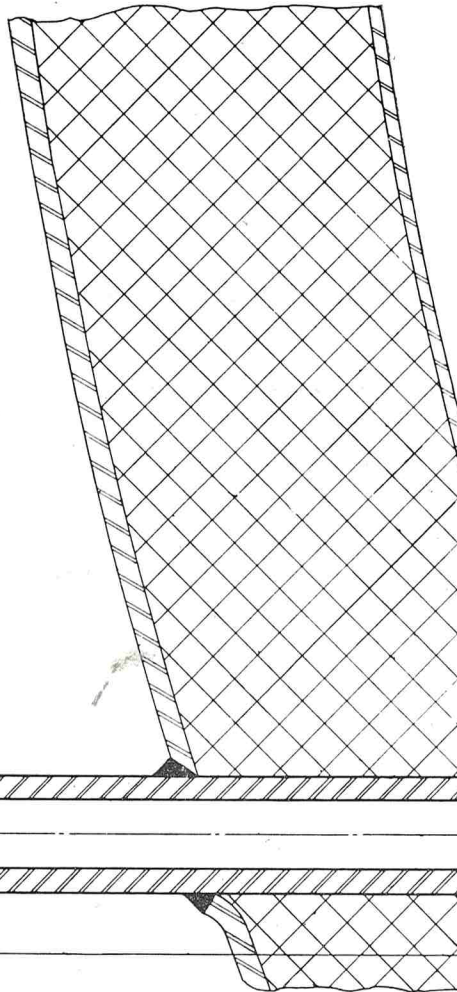
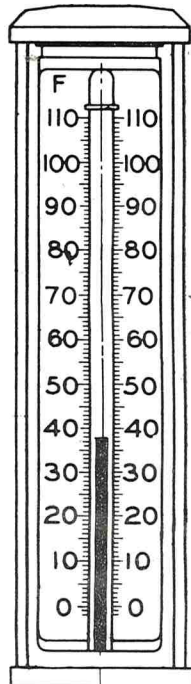
7/8/54
Date



3A STANDARD
THERMOMETER
FITTINGS & CONNECTIONS
3A-101-09

MATERIAL - 18-8-5 CHROME NICKEL IRON (A.I.S.I TYPE 304)

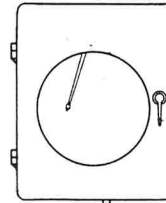
TOLERANCES - ± 1/64" ON FRACTIONAL DIMENSIONS



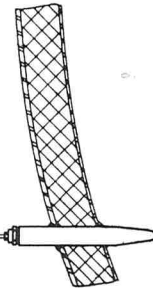
3A8 THERMOMETER WELL (LONG)

FOR INDICATING & RECORDING THERMOMETERS
ON MILK STORAGE TANKS

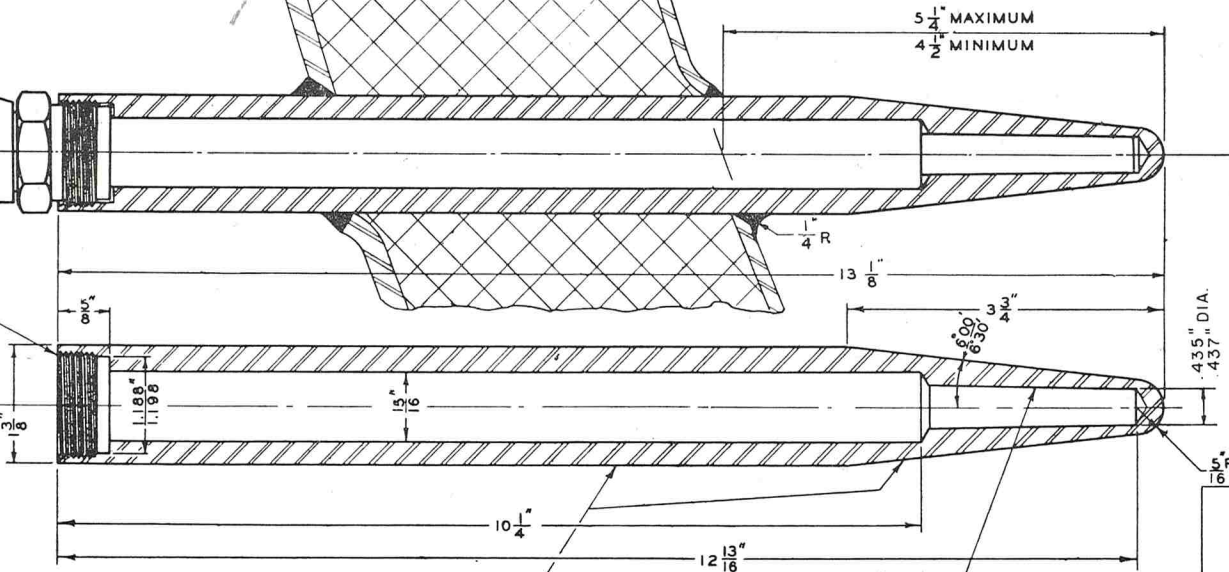
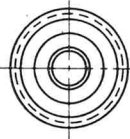
DAIRY RECORDER



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$\frac{1}{4}$ -18 NEF-2 $\frac{7}{16}$ " DEEP
CHAMFER FIRST THREAD



GROUND & POLISHED SURFACE
FREE FROM PITS

180" TAPER PER FT. 25% FIT (SURFACE
ENGAGEMENT) WITH TAPER GAGE

3A STANDARD
THERMOMETER
FITTINGS & CONNECTIONS

3A-101-10

MATERIAL- 18-8-5 CHROME NICKEL IRON (AISI TYPE 304)

TOLERANCES- $\pm \frac{1}{64}$ " ON FRACTIONAL DIMENSIONS

NOV. 1952

SANITARY STANDARDS FOR STAINLESS STEEL AUTOMOTIVE MILK TRANSPORTATION TANKS FOR BULK DELIVERY AND/OR FARM PICK-UP SERVICE

Formulated by

INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC.
UNITED STATES PUBLIC HEALTH SERVICE
THE DAIRY INDUSTRY COMMITTEE

Amended April 28, 1954

Original Publication in JOURNAL OF MILK AND FOOD TECHNOLOGY, Vol. 13, Jan.-Feb., 1950

PREAMBLE

It is the purpose of the IAMFS, USPHS, and DIC in connection with the development of the 3A Sanitary Standards program to allow and encourage full freedom for inventive genius or new developments. Milk transportation tank specifications heretofore or hereafter developed which so differ in design, material construction, or otherwise as not to conform with the following standards, but which, in the fabricator's opinion are equivalent or better, may be submitted for the joint consideration of the IAMFS, USPHS, and DIC, at any time.

Transportation Tanks for Milk and Fluid Milk Products conforming to 3A Standards comply with the following in design, material and construction.

DEFINITION: A bulk milk transportation tank is an over-the-road truck or trailer tank used to transport milk or milk products. A farm pick-up tank or multiple pick-up and delivery tank is considered to be a milk transport tank as above defined with milk transfer attachments and facilities, as specified herein.

A—MATERIAL:

1. **Inside Lining:** The inside lining and baffles if used, shall be of 18-8 stainless steel with a carbon content of not more than 0.12%.

The gauge of material for the inside lining shall be not less than the following:

16 U.S. Standard Gauge for tanks of capacities of 1,000 gallons or less.

14 U.S. Standard Gauge for tanks of capacities of over 1,000 gallons

and not exceeding 2,000 gallons.

12 U.S. Standard Gauge for tanks of over 2,000 gallons capacity. Except that lighter gauges of material shall be permitted if they are so supported that they will have equal resistance to denting, buckling and sagging, as provided by the three gauges specified above for the respective sizes of tanks.

2. **Outlet Valve:** Valve shall be made of 18-8 stainless steel, nickel alloy or other equally corrosion-resistant material.

3. **Outer Jacket:** The outer jacket, or that portion of the material covering the exterior of the insulation shall be of metal or other waterproof material which is smooth, sanitary, and effectively sealed.

4. **Insulation:** Insulation material shall be of a nature and amount sufficient to prevent in 18 hours an average temperature rise of greater than 2°F. in the tank full of water when the differential between the temperature of the water and that of the atmosphere is 30°F.

The above temperature rise does not take into consideration the sensible heat that may be stored in the empty tank at time of filling.

5. **Manhole Assembly:** Manhole opening collar and cover shall be of 18-8 stainless steel.

6. **Manhole Dust Cover:** Manhole dust cover shall be made of aluminum, stainless steel, chrome-plated steel or other equally corrosion-resistant material.

7. **Deck Plate:** Deck plate, defined as the manhole dust cover seat or that part of the outer jacket

on which the dust cover rests, shall be of stainless steel, aluminum or other equally corrosion-resistant material.

8. **Agitator Shaft and Blades:** Agitator shaft and blades shall be of 18-8 stainless steel.

B—FABRICATION:

1. **Inside Lining:** The inside lining surface shall be at least as smooth as a No. 4 mill finish on stainless steel sheets or 120 grit properly applied.

2. **Welds:** All inside seams shall be welded with the welds ground smooth and polished to not less than a No. 4 finish or 120 grit properly applied. All outside seams shall be smooth and waterproof. All weld areas and deposited weld metal shall be substantially as corrosion resistant as the parent metal.

The inside radii of all welds or permanent attachments shall be not less than 1/4 inch.

3. **Construction:** The tank shall be constructed so that it will not sag, buckle, or prevent complete drainage.

Where the inside head and partition walls join the lining of the tank the radius shall be not less than 3/4 inch.

Longitudinal welds in the drainage line shall be so located as to not interfere with drainage.

The construction of the tank shall be such that complete drainage with water will be obtained with a pitch at the bottom of the tank of not greater than one inch in 100 inches.

C—SIZE OF TANK

The height of the vertical axes of the inner shell of the tank shall not be less than the minimum

heights shown in the following tables:

TANKS HAVING UNIFORM
VERTICAL AXES

Up to and including 500 gal.....	36"
Over 500 gal. and up to and including 2,000 gal.	40"
Over 2,000 gal. and up to and including 2,800 gal.	42"
Over 2,800 gal. and up to and including 3,500 gal.	44"
Over 3,500 gal.	46"

TANKS HAVING VARYING
VERTICAL AXES

	Front Min.	Rear Min.
Up to and including 500 gal.	36"	36"
Over 500 gal. and up to and including 2,000 gal.	40"	40"
Over 2,000 gal. and up to and including 2,800 gal.	41"	51½"
Over 2,800 gal. and up to and including 3,500 gal.	43¼"	55½"
Over 3,500 gal.	43¼"	57½"

D—OPENINGS

1. *Outlet*: The outlet shall have a stainless steel flanged type connection for the valve, and shall be located to provide complete drainage of the tank or compartment thereof. The minimum diameter shall correspond to that of a 2" sanitary valve.

2. *Outlet Valve*: Valves shall be sanitary in construction, readily cleanable, and shall be either of two types:

a. Close-coupled sanitary plug type valve.

b. Close-coupled compression type valve with no stuffing box.

The valve body shall be so designed that it can be mounted on the tank with either single service or block tin gaskets. If a block tin gasket is used, it shall be scraped in and smoothed off after the valve body is drawn up tightly in its permanent and fixed position. The outlet and valve bores shall be in the same plane.

Valve outlet shall be equipped with a sanitary 3A cap to cover all threads when in place.

Valve may be metal to metal or rubber or rubber-like material to

metal seat. If rubber or rubber-like seals are used, they shall be readily removable and grooves and material shall be readily cleanable. All internal angles shall have radii of not less than 1/16 inch.

3. *Outlet Valve Dust Cover*: The entire valve assembly shall be suitably encased in a cover which shall be dustproof and tamperproof by means of seating facilities.

Interior finish of cover shall be smooth.

If valve is located in dustproof cabinet then dust cover over valve need not be used.

4. *Manhole Assembly*: Manhole opening shall be a minimum 16" x 20" oval or minimum 18" diameter. Fittings incorporated in manhole cover shall be welded in place. Top manhole opening shall be not less than 3/8-inch higher than the surrounding area and if exterior flange is incorporated in it, it shall slope and drain away from opening.

Manhole cover shall be not less than a No. 4 mill finish inside and outside.

Manhole cover gaskets shall be made of a resilient rubber or rubber-like material that is non-toxic, relatively stable, relatively non-absorbent and has a smooth surface. It shall be removable and may be any one of the following cross-sections; flat, rectangular, square, oval, round, "L" or "Z" shape, or any other section which is equally cleanable. All gasket retainer grooves shall be readily cleanable and all internal angles shall have a radii of not less than 1/16 inch.

Manholes shall be so located that in no case shall either end of the tank be more than 15 feet from a manhole opening.

5. *Vent Opening*: A sanitary air vent of sufficient free opening to prevent excess vacuum and/or internal pressure, shall be installed under the manhole dust cover. The air vent shall be designed so that parts are readily accessible, easily removable and readily cleanable.

6. *Fill Connection*: The fill connection shall conform to 3A Sanitary Standards for Fittings and shall be flush with the inside wall. Fill connection in the manhole cover is not required if the tank is filled through outlet valve.

7. *Manhole Dust Cover*: The interior finish of the manhole dust cover shall be smooth, readily clean-

able and free from bolts and screws. Round or oval head rivets shall be deemed acceptable. Welded interior attachments shall have a minimum radii of 1/16 inch. A suitable vent shall be provided to relieve vacuum and pressure when dust cover is closed. A smooth rubber or rubber-like material gasket shall form a seal between the dust cover and the deck plate and shall be either removable or may be firmly bonded to manhole dust cover to provide a smooth, easily cleanable surface without crevices. Locking device on dust cover shall be designed to provide a tight seal against the gasket. Deck plate, if attached to the outer jacket, shall be effectively sealed. Dust cover shall have suitable provisions for the use of a sealing device to prevent tampering.

E—AGITATION

When specified, tank or each compartment thereof shall be provided with means of adequate agitation of product. Adequate agitation for whole milk is that degree of agitation which will result in not more than ± 0.1 percent variation in fat content in fluid milk after 20 minutes agitation of milk stored 24 hours at 40°F.

The agitator shaft shall be demountable for cleaning and shall have a packless bearing. The agitator shall have a sanitary rotary seal. Blades shall be of sufficient size and so powered as to provide adequate agitation of the product.

1. *Vertical Agitation*: If support at the bottom of the tank is provided, it shall not interfere with drainage. The point of entrance to the tank shall be not less than 3/8 inch higher than the surrounding area and shall be protected against dust and insects by means of a dust cover.

2. *Alternate Agitation*: When compressed air is used for agitation of the product or to unload the transport tank, and the compressor is an intergal part of the vehicle, the source of the air shall be such as to preclude the possibility of oil or oil vapors entering the air line. The air shall be processed to remove dust, insects, and extraneous material. The piping installations used to convey the air shall be designed to prevent siphoning or backflow of milk into

the air system. The air piping within the tank shall conform to 3A Sanitary Standards for Piping and shall be readily and easily removable for cleaning outside the tank. No threaded fittings shall be used in the milk zone. Walls of holes in air distributor piping shall be chamfered for easy cleaning and all burrs shall be removed. (See "APPENDIX, Paragraph (A), Recommendations for Air Agitation".)

F—BAFFLES

Baffles, when used, shall not interfere with the free drainage of the tank. The area of any one baffle plate shall not exceed 40% of the cross-sectional area of the tank and the entire baffle shall be on one side of the longitudinal centerline of the tank. If more than one baffle is installed, consecutive baffles shall be installed on opposite sides of the tank and not less than 48 inches apart. Baffles shall be so designed that walk-through accessibility shall be provided to all areas for inspection and cleaning purposes.

Baffles shall be permanently attached to the tank. The inside radius where the baffle attaches to the inside lining shall not be less than 1/4 inch and there shall be no sharp edges.

G—ACCESS TO TOP OF TANK

If the manhole is on the top of the tank, the tank shall be provided with a ladder on each side.

FARM PICK-UP TANKS

For a farm pick-up or multiple pick-up tank, the following additional standards apply:

H—MATERIAL; PUMP AND/OR HOSE CABINET

1. *Inside Lining*: The inside lining of cabinet, doors and other fixed attachments shall be smooth and made of stainless steel or other equally corrosion-resistant material.

2. *Outer Jacket*: The outer jacket of the pump cabinet and doors shall be of metal or other waterproof material which is smooth, sanitary, and effectively sealed.

3. *Insulation*: Cabinet and doors shall be insulated with a minimum of 1-inch cork or its equivalent in insulating value.

4. *Gasket Material for Door*:

Gasket material shall be smooth, easily cleanable, non-absorbent and without voids or crevices in the body.

5. *Transfer Tubing, Stainless Steel or Flexible*: Flexible tubing shall be made of rubber-like non-toxic material, relatively stable, smooth inside and outside and capable of withstanding the action of currently acceptable cleaning and bactericidal procedures.

6. *Sample Trays and Compartment for Butterfat Samples*: When sample trays and sample compartment for butterfat samples are carried in pump cabinet they shall be made of stainless steel, plastic or other equally corrosion-resistant material.

I—FABRICATION; PUMP CABINET

1. *Welds*: All seams of the inside lining shall be welded, smooth, free of crevices, easily cleanable and shall not interfere with drainage.

2. *Weld Areas*: All weld areas and deposited weld metal shall be substantially as corrosion-resistant as the parent metal.

3. *Radii of Inside Corners*: All inside corners shall have minimum radii of 1/8 inch and bottom of cabinet shall be constructed so that it will not sag, buckle or prevent complete drainage when standing on a reasonably level surface.

4. *Pump Cabinet Doors*: The pump cabinet shall be dust tight and doors shall be equipped with a compression type closing device. Gasket material for sealing pump cabinet doors may be installed on face of the cabinet or on the doors except along drainage area where it shall be attached to the doors. Gasket material shall be removable from an easily cleanable surface or firmly bonded to provide smooth, easily cleanable surfaces without crevices.

5. *Pump Cabinet Roof Overhang*: A roof overhang or suitable drip molding shall be provided over the cabinet doors.

6. *Attachments*: Fixed attachments such as pump-support bracket and hose-carrier bracket and brackets for ammenities such as belt and pulley guards, shall be of a design and so positioned as to be readily cleanable. Pump assemblies having a base area of

one square foot or less shall have a minimum clearance of two inches between pump assembly base and cabinet floor and three inches between pump assembly and cabinet walls. If pump assemblies have a base area of more than one square foot, a minimum of three inches of clearance shall be provided between pump assembly, cabinet floor, and side walls. When pump assembly is mounted on floor of cabinet using a solid base, a nonabsorbent sealing gasket shall be used and the pump assembly shall be mounted so as not to interfere with drainage and shall have three inch clearance from the walls. The inside radii of all welded attachments shall be not less than 1/8 inch.

When pump is mounted on side wall, pump housing must be permanently attached to side wall with a non-absorbent sealing gasket or shall be readily removable.

J—PUMP CABINET; SIZE AND LOCATION OF

The size and location of cabinet for housing pump, hose and other accessories shall be such as to afford easy accessibility for assembly and disassembly of removable parts and shall be of a size to provide ample clearance around permanently installed equipment and parts. (See "APPENDIX, Paragraph (B), Facilities for Extra Fittings".)

K—ELECTRIC MOTORS, PUMPS AND FITTINGS

Motors for pump and/or agitators, if located in the pump compartment, shall conform to the 3A Sanitary Standards for Motors and shall be totally enclosed, non-ventilated. When motor is located in pump compartment, water proof electric wiring shall be conducted through wall of pump cabinet with watertight connections. Storage space for the extension cord shall be located outside the pump compartment.

Pump and fittings shall conform to the 3A Standards.

L—TRANSFER TUBING; STAINLESS STEEL OR FLEXIBLE

Single lengths of transfer tubing shall not exceed 8 feet except in those cases where adequate ac-

ceptable cleaning facilities are provided and inside diameter shall not be less than 1 3/8 inches. If two lengths of flexible tubing are used, they shall be connected either by the use of sanitary couplings or a piece of 3A Sanitary Tubing with clamps which can be removed without tools. 3A Sanitary Caps shall be furnished for each end of the tubing and the pump.

A sanitary and readily cleanable hose-carrier bracket shall be provided to adequately support hose and a means shall also be provided to support the loose end of the hose above the cabinet floor.

Connection between pump and tank may be made by use of a piece of flexible tubing and clamps which can be readily removed without tools.

M-HOSE CONNECTORS

Male and female fittings for hose connectors shall conform to 3A Sanitary Standards for Fittings. Hose connectors shall be attached to hose so as to be quickly and easily removable without tools.

N-SAMPLE TRAYS AND COMPARTMENT FOR BUTTERFAT SAMPLES

If sample trays and sample compartment are carried in pump cabinet, they shall be of sanitary construction and readily cleanable. Facilities shall be provided for adequately refrigerating samples.

If sample compartment is permanently installed in pump cabinet, the method of attachment shall be by smooth welds or with bolted and gasketed joints using a non-absorbent sealing gasket. If sample compartment is supported from the floor, all supports must be welded to the floor. A minimum clearance of 6 inches shall be provided between the sample compartment and the floor of the pump compartment.

APPENDIX

This appendix covers recommendations for (A) Air Agitation and (B) Facilities for Extra Fittings.

A-RECOMMENDATIONS FOR AIR AGITATION

When compressed air is used for agitation of the product or to unload the transport tank, and the compressor is not an integral part of the vehicle, it is recommended that the following conditions be met:

- (1) The source of the air be such as to preclude the possibility of oil or oil vapors entering the air line.
- (2) The air to be processed to remove dust, insects, and extraneous material.
- (3) The piping installation used to convey the air to be designed to prevent siphoning or backflow of milk into the air system.
- (4) The piping and fittings to

conform to 3A Sanitary Standards.

(5) Compressors to be provided with the following air filters:

- (a) Large removable filter to be located at inlet end of compressor.
- (b) Filter and moisture trap to be located immediately after compressor.
- (c) Single service filter to be provided at junction of sanitary milk line and non-sanitary air line.
- (6) All filters to be easily accessible.

(7) Non-sanitary air line to be pitched away from sanitary inlet pipeline.

(8) Compressor inlet to be located in a clean space or in clean outer air.

NOTE: Oil-free air may be produced by one of the following methods or their equivalent:

- (a) Use of carbon ring piston compressor.
- (b) Use of an oil lubricated compressor with effective provisions for removal of any oil vapor by cooling.
- (c) Use of high pressure water-lubricated or non-lubricated blowers.

B-RECOMMENDATIONS FOR FACILITIES FOR EXTRA FITTINGS

If extra fittings are supplied by the manufacturer of the farm pick-up tank, facilities should be provided in the pump compartment to adequately protect such items.

APPROVED BY:

C. A. Abele
C. A. Abele, Chairman - CSP of IAMFS

7/29/54
Date

John D. Faulkner
John D. Faulkner, Chief - MF-USPHS

7/21/54
Date

E. H. Parfitt
E. H. Parfitt, Chairman - SSS-DIC

7/29/54
Date

George W. Putnam
George W. Putnam - Tech. Committee DISA

7/23/54
Date

A PLAN FOR THE PREPARATION, SHIPMENT, AND BACTERIOLOGICAL ANALYSES OF SPLIT SAMPLES OF MILK

WILLIAM J. BECK AND IRMA C. ADAMS

*Bureau of Laboratories, Missouri Division of Health
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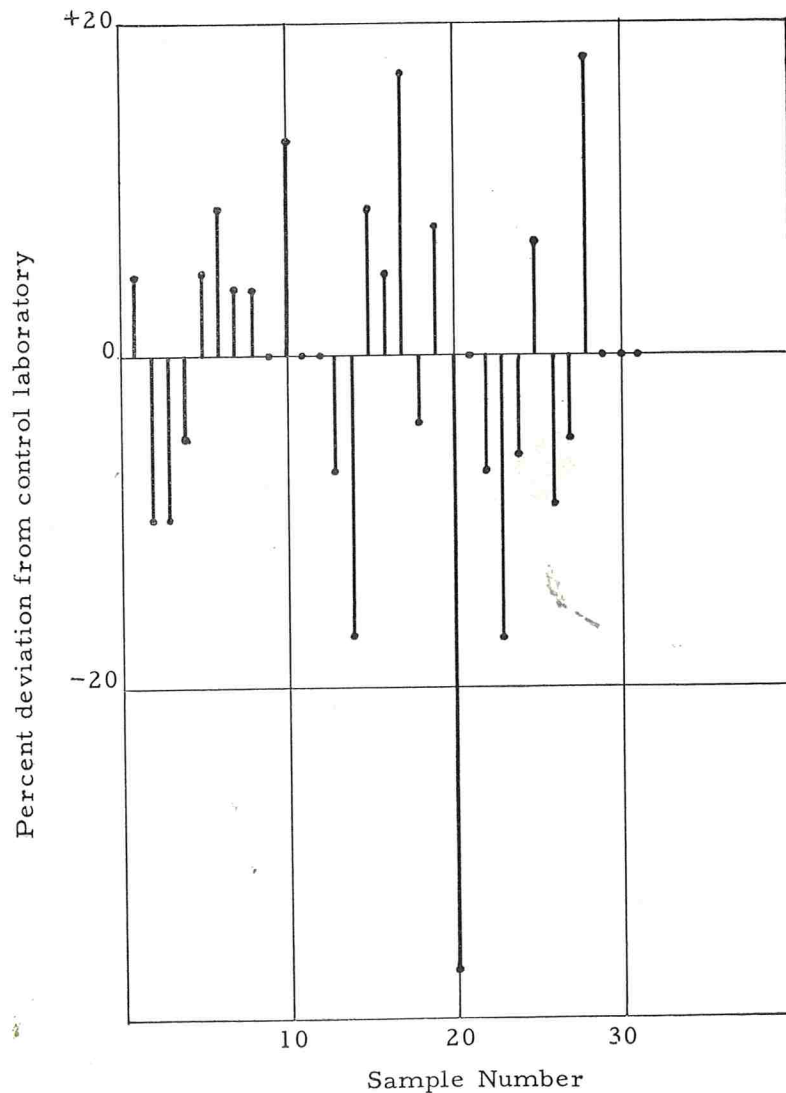
A plan and a progress report has been presented for the preparation and shipment of split milk samples to include the performance test in an approval program for milk laboratories.

In the absence of a workable plan for a laboratory approval program

and certification of bacteriological examination of milk, there has been developed in this paper a method based on the preparation and shipment of split milk samples within Missouri. The following report is based on the preliminary findings

GRAPH 1A

LABORATORY A (31 samples)



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in this study.

An adequate approval program should include a survey of the laboratory equipment and a check on the performance of the individual laboratory technic. In order to accomplish such a plan it was necessary to develop a method (ways and means) of preparing milk samples of a given bacteriological population and shipping aliquot samples of this milk to laboratories for standard agar plate counts. Such a plan would help determine whether or not an individual laboratory could comply with the directive of the Surgeon General of the United States Public Health Service dated December 31, 1946. The directive stated that "The State may accept reports from local laboratories that have been approved by the State Laboratory Director as complying substantially with the American Public Health Association Standard Methods and as checking within 10 percent on results at least twice a year on split samples¹.

Because of the transportation facilities within Missouri it was impossible to ship split milk samples in a liquid form to the various laboratories and have the desired bac-

teriological population upon arrival. Thus an attempt was made to quick-freeze split samples of commercial homogenized milk. The milk samples were divided aseptically into sterile screw-cap culture tubes and quick-frozen in a mixture of solid CO₂ and ethyl alcohol. These samples were then packaged in a metal container containing a jiffy bag with a large piece of dry ice. Upon arrival at the pilot laboratories used in this study the samples were in a frozen state, but the results were too varied to be used for a laboratory approval program. From the results of these pilot studies the following method using the addition of known organisms to sterile fluid skim milk was developed.

PREPARATION OF TEST SAMPLES

Pure cultures of *Escherichia coli*, *Micrococcus pyogenes* var. *aureus*, *Streptococcus liquefaciens*, and *Sarcina lutea* were used in preparing the split milk samples. Generally two of the test organisms, but never more than three, were used in the preparation of the split samples for each sample prepared. (*Bacillus subtilis* could not be used because of the tendency of the colonies to become spreaders when the samples were thawed for plating.)

The fluid milk for culturing and preparing the split samples was sterilized in 5-ml and 500-ml lots at 121° C for 15 minutes and then stored at 10° C.

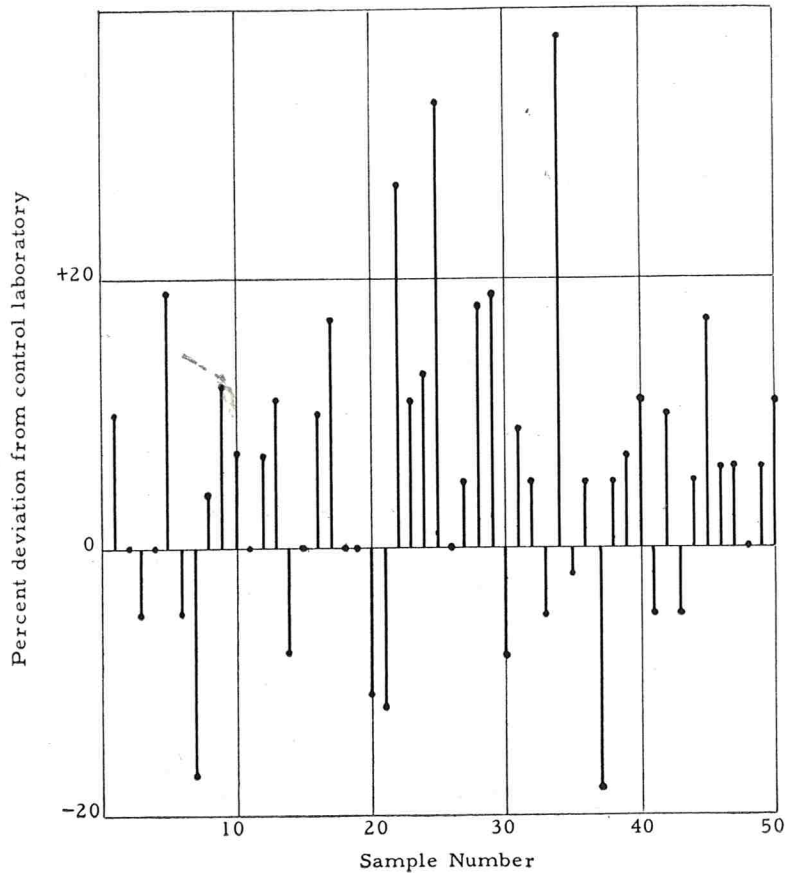
A stock culture of each individual organism was held in sterile skim milk at 10° C and transferred every two weeks to maintain the stock culture.

The estimated amount of inoculum of each test organism needed to obtain a given total count in the final test samples was determined as follows:

1. A 3 mm loopful of stock sample in skim milk was transferred to 5 ml sterile skim milk and incubated at 35° C for 24 hours.
2. A standard plate count with dilutions of 10⁻⁵, 10⁻⁶, and 10⁻⁷ was made on the 24-hour culture of each test organism. The results of the plate count of each organism were used in the formula given below for the total estimated population of each test organism.

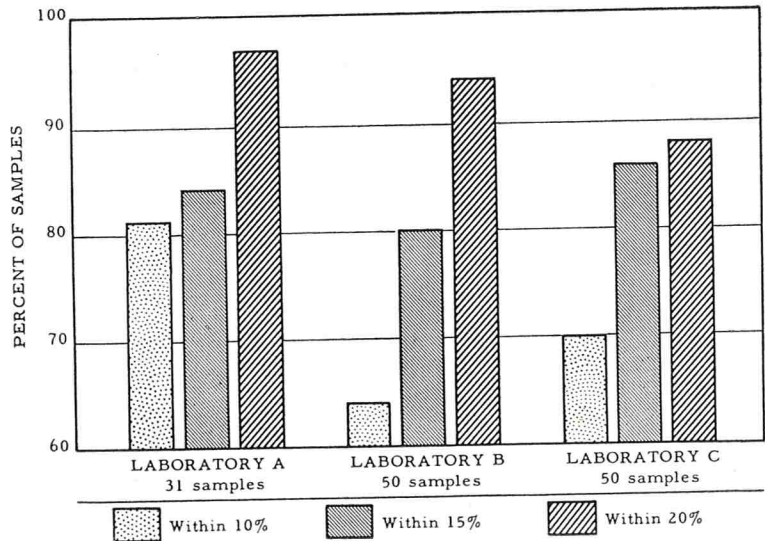
GRAPH 1B

LABORATORY B (50 samples)



GRAPH 2

TOTAL PERCENT OF SAMPLES WITHIN CERTAIN PERCENT LIMITS OF CONTROL LABORATORY



3. The following formula was used to determine how much of a 24-hour culture should be added to give the desired concentration of the individual test organism in the test sample:

If X is equal to the necessary dilution of 1 ml of test sample inoculated skim milk to obtain desired total number of bacteria to be added to the sterile skim milk sample, then

$$X = \frac{\text{Total estimated bacterial population}}{(\text{Desired number bacteria per ml}) \times (\text{ml of sterile skim milk to be used})}$$

$\frac{1}{X}$ = ml of 24-hour culture of test or test organisms to be added

For example: A 3mm loopful of test organism was inoculated into 5 ml of sterile skim milk and produced a Standard Plate Count of 2.0×10^9 per ml. If a total count of 4000 organisms per ml in 500 ml sterile skim milk were desired, then an inoculum of 0.001 ml of a 24-hour culture would be used.

The total estimated population in a 24-hour culture in skim milk was determined for each organism used in this experiment. This population number was used each time the organism was added to a test sample.

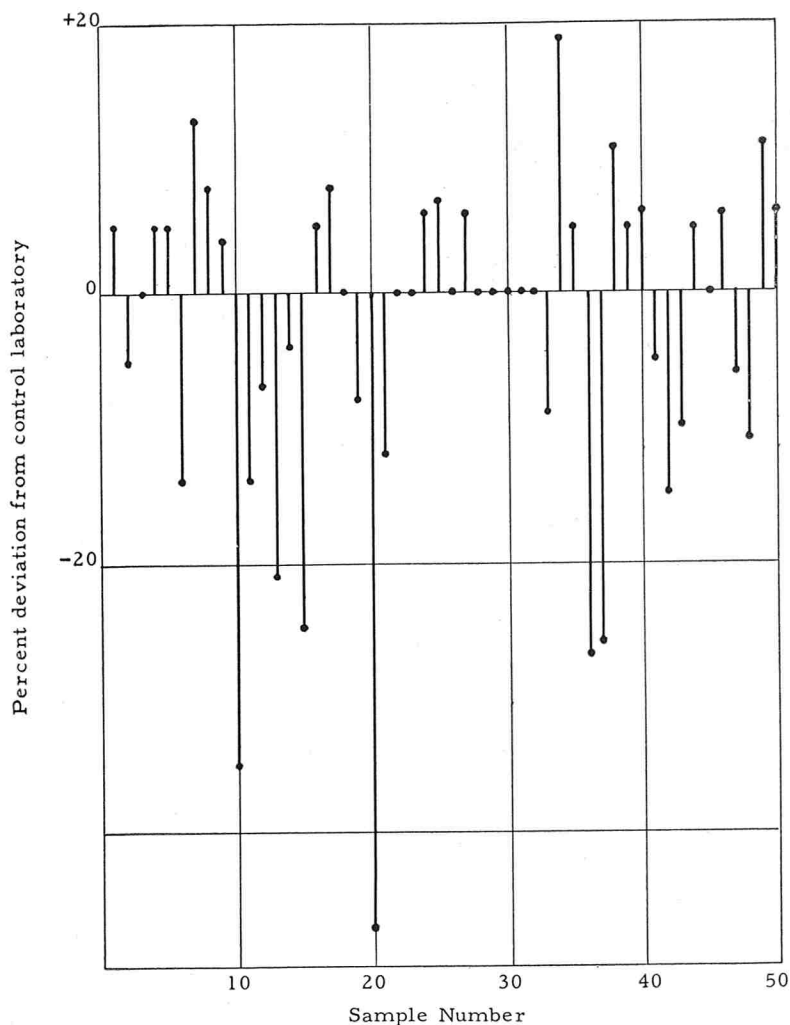
Twenty-four hours before the test sample was to be prepared a three mm loopful of stock culture of the test organism(s) to be used in the test sample was inoculated into 5 ml of sterile skim milk, and incubated at 35°C for 24-hours. A separate tube with sterile skim milk was used for each organism to be used. The amount of culture of each organism added to give the desired estimated total count in 500 ml of sterile skim milk was calculated. This amount was added from the individual 24-hour culture of each test organism.

PREPARATION OF SPLIT SAMPLES

After the desired amount of test organism was added to cold sterile skim milk, the specimen was hand-homogenized three times at room temperature as rapidly as possible, and placed in the cold room at 10°C where the remainder of the preparation was performed. The next

GRAPH 1C

LABORATORY C (50 samples)



step consisted of shaking the sample vigorously twenty-five times and the immediate transferring of 10 ml aliquot samples aseptically into sterile screw-cap resistant-glass test tubes (25 x 150 mm). These tubes were then quick-frozen in a mixture of solid CO_2 and ethyl alcohol (-72°C). Rotation of the sample while freezing was necessary to facilitate the complete freezing of the sample within 5 minutes. As each tube was frozen it was removed from the mixture, wrapped in a paper towel, and placed in a mailing container to be described below. It was found that a rectangular square of solid CO_2 approximately $2\frac{1}{2} \times 2\frac{1}{2} \times 5$ inches would hold six samples in a solid state for a minimum of 24 hours.

The mailing case consisted of an outer corrugated paper box with additional insulation of paper, a metal can (one gallon snap-lid type) with an insulated paper bag (jiffy) containing the split samples of milk and the solid CO_2 . As soon as all the samples were packaged they were sealed and mailed special delivery to the participating laboratories. One random package was held at room temperature in the Central Laboratory to be used as the control samples. The same procedure was used in the control laboratory as was used in the participating laboratories with the one exception that the specimens were not removed from the package and stored in the deep freeze or refrig-

erator, thus leaving the split milk samples in their original mailing container until the designated time for thawing. As far as could be determined this exception had no effect on the results.

PROCEDURE

A sheet of instructions had been previously supplied to each laboratory technician asking him to open the package immediately upon arrival and place the frozen samples in the deep freeze or freezing compartment of his refrigerator. At a designated time each technician, including the technician in the Control Laboratory, removed the samples from storage and allowed them to thaw at room temperature for one hour. The samples were then plated according to *Standard Methods for the Examination of Dairy Products*², except for one deviation. This deviation from Standard Methods consisted of making triplicate plates of 1-100 dilution, starting from the original sample each time. (By using triplicate plates of a 1-100 dilution the internal variance of each

sample could be studied, materials were conserved, time requirements of Standard Methods could be met, and an additional variant between dilutions would be eliminated. The variants as used herein refer to the statistical term as developed by R. A. Fisher.)³ An attempt was made to keep all samples within the range from 30 to 300 colonies per plate. The count of each plate was recorded and reported to the Control Laboratory (Missouri Division of Health, Bureau of Laboratories.) An arithmetic average of the triplicate counts was made and this average was used as the standard plate count for each sample. The percent deviation from the control count was calculated and recorded. The results appear in Table 1.

RESULTS AND DISCUSSION

The percent deviation from the Control Laboratory on individual samples had a wide range from plus 38 percent to minus 47 percent. In a total of 131 tests performed by the three participating labora-

tories only 10 samples had a deviation of more than 20 percent. Laboratory A had only one deviation greater than 20 percent out of 31 samples, while Laboratory B had three out of 50 and Laboratory C had six out of 50 samples. This is graphically described in graph 1A, 1B, and 1C.

In analyzing the results of the split milk samples the percent of samples within 10 percent of the Control Laboratory was 81 percent for Laboratory A, 64 percent for Laboratory B, and 70 percent for Laboratory C. The percent within 15 percent of the Control Laboratory was 84 percent for Laboratory A, 80 percent for Laboratory B, 86 percent for Laboratory C. The percent within 20 percent of the Control Laboratory was 97 percent for Laboratory A, 94 percent for Laboratory B, and 88 percent for Laboratory C. (Graph 2)

It was found that on the average the laboratories participating in this study could reproduce their results within 10 percent of the Control Laboratory 70 percent of the time, within 15 percent of the Control Laboratory 83 percent of the time, and within 20 percent of the Control Laboratory 92 percent of the time.

It was noted that of the ten samples showing a deviation of more than 20 percent, six of the samples contained the cultural combination of *Escherichia Coli*, *Micrococcus pyogenes* var. *aureus*, and *Streptococcus liquefaciens*. From these observations additional work should be undertaken on this combination. Other combinations of organisms should also be studied for their suitability for use in test samples.

The internal variance of the Control Laboratory and of Laboratory B was within the limits set for this experiment⁴. Laboratory A was within the limits set to the extent of a possibility of bias in its results. (The variation among samples was very small indicating that the operator had a tendency to work towards a predetermined answer.) Laboratory C was beyond the limits set. The findings of this preliminary study indicate that additional study should be undertaken to determine the nature of the biases that appeared to be in both Laboratories A and C. Other analyses showed that Laboratory A

RESULTS OF 50 SPLIT SAMPLES

SAMPLE NO.	CONTROL LABORATORY SPC/ML x 10 ³	LABORATORY A		LABORATORY B		LABORATORY C		SAMPLE NO.	CONTROL LABORATORY SPC/ML x 10 ³	LABORATORY A		LABORATORY B		LABORATORY C	
		SPC/ML x 10 ³	% DEV.	SPC/ML x 10 ³	% DEV.	SPC/ML x 10 ³	% DEV.			SPC/ML x 10 ³	% DEV.	SPC/ML x 10 ³	% DEV.	SPC/ML x 10 ³	% DEV.
1	20	21	+5	22	+10	21	+5	26	23	21	-9	23	0	23	0
2	21	19	-10	21	0	20	-5	27	22	21	-5	23	+5	23	+5
3	20	18	-10	19	-5	20	0	28	11	13	+18	13	+18	11	0
4	20	19	-5	20	0	21	+5	29	21	21	0	25	+19	21	0
5	21	22	+5	25	+19	22	+5	30	12	12	0	11	-8	12	0
6	22	24	+9	21	-5	19	-14	31	22	22	0	24	+9	22	0
7	24	25	+4	20	-17	27	+13	32	22	*		23	+5	22	0
8	26	27	+4	27	+4	28	+8	33	22			21	-5	20	-9
9	25	25	0	28	+12	26	+4	34	16			22	+38	19	+19
10	15	17	+13	16	+7	9.7	-35	35	42			41	-2	44	+5
11	29	29	0	29	0	25	-14	36	8.2			8.6	+5	6.0	-27
12	15	15	0	16	+7	14	-7	37	9.4			7.7	-18	7.0	-26
13	28	26	-7	31	+11	22	-21	38	37			39	+5	41	+11
14	24	20	-17	22	-8	23	-4	39	42			45	+7	44	+5
15	11	12	+9	11	0	8.2	-25	40	18			20	+11	19	+6
16	21	22	+5	23	+10	22	+5	41	42			40	-5	40	-5
17	12	14	+17	14	+17	13	+8	42	20			22	+10	17	-15
18	23	22	-4	23	0	23	0	43	20			19	-5	18	-10
19	12	13	+8	12	0	11	-8	44	19			20	+5	20	+5
20	19	12	-38	17	-11	10	-47	45	18			21	+17	18	0
21	17	17	0	15	-12	15	-12	46	18			19	+6	19	+6
22	15	14	-7	19	+27	15	0	47	18			19	+6	17	-6
23	18	15	-17	20	+11	18	0	48	18			18	0	16	-11
24	16	15	-6	18	+13	17	+6	49	18			19	+6	20	+11
25	15	16	+7	20	+33	16	+7	50	18			20	+11	19	+6

*31 samples reported

tended to reproduce on each sample the results of the Control Laboratory more closely than one should expect from completely independent work. The other two laboratories differed from the Control, but not enough to create suspicion.

CONCLUSIONS

1. A plan for the preparation, shipment, and analyses of results of split milk samples for milk control laboratories has been presented.

2. From the data presented it would appear that with this method a laboratory could routinely reproduce its results within 20 percent of the Control Laboratory on 90 percent of samples tested.

3. With additional work an arbitrary percentage of agreement could be developed making it possible to include the performance test of split milk samples in a laboratory approval or certification program.

ACKNOWLEDGEMENT

The authors wish to express their appreciation to the personnel of the Branch Laboratories of the Missouri Division of Health and the bacteriologist in the Central Laboratory for their participation in this study, and to the many helpful suggestions and criticisms by the personnel of the Bureau of Vital Statistics, Missouri Division of Health.

REFERENCE:

1. Parran, Thomas, Surgeon General of USPHS, *Directive to All State Milk Control Authorities* (December 31, 1946).
2. American Public Health Association, *Standard Methods for the Examination of Dairy Products*, 9th ed., (1948).
3. Fisher, R. A., *Design of Experiments*, Oliver and Boyd, London, (1947) 48 ff. Ch. 4.
4. Youden, W. J., *Statistical Methods for Chemists*, John Wiley and Sons, New York, N. Y., (1951) 24 ff. and Ch. 7.

FDA COMMISSIONER CRAWFORD RETIRES

The retirement of Charles W. Crawford, Commissioner of Food and Drugs since 1951, was announced July 24, by Oveta Culp Hobby, Secretary of Health, Education, and Welfare. Mr. Crawford, who is 66, has been in Government Service for more than 37 years. At his request, his retirement will become effective on July 31.

The Secretary announced that Mr. Crawford will be succeeded by

George P. Larrick, Deputy Commissioner of Food and Drugs since June of 1951 and a career employee of the Food and Drug Administration since 1923.

Commissioner Larrick has agreed to become a public trustee of the Food Law Institute. Mr. Crawford will remain a public trustee, together with former Commissioner Dunbar.

In a letter accepting Mr. Crawford's retirement, Secretary Hobby said:

July 23, 1954

"Dear Mr. Crawford:

"In accepting your request for retirement on July thirty-first, I am not unmindful of the loss of a truly devoted public servant. That feeling, I know, is shared by your many friends throughout the Federal service, the Department, and by the many others outside the Government with whom you have worked during the years.

"Your career has been one of outstanding dedication—dedication to the work of the Food and Drug Administration, to the Federal service, and to the people of the United States. I hope that your high integrity, and your scrupulous administration of the laws under which the Food and Drug Administration operates will yield their own return in the personal satisfaction you should feel from your work of more than thirty years in the government.

"It has been both a pleasure and privilege to have been associated with you, and you have my warm thanks for your invaluable contribution to the welfare of the people of the United States which the Department represents.

"I know that I speak for your many friends and associates when I extend to you the very best of wishes for the years ahead and the grateful appreciation of your fellow Americans on whose behalf you have worked so long, so faithfully and so well.

Sincerely,

/s/ Oveta Culp Hobby
Secretary"

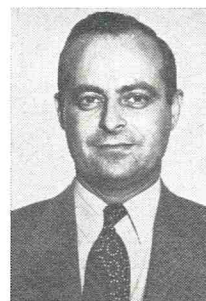
CORRECTION NOTICE

In the article "Practical Sanitary Aspects of Bulk Dispensing" appearing in the July issue 1954, credit for the pictures used in this article was inadvertently omitted.

The authors wish to express their appreciation for permission to use these pictures to Mr. R. L. Goethe, President, The Rodar Company, Inc.; P. O. Box 117; Avondale Estates, Georgia, exclusive representatives of the Norris Milk Dispensers in nine southeastern states. The pictures appeared originally in an excellent booklet "Packaging Milk for use in Milk Dispensers" published in 1954 by the Rodar Company, copies of which may be obtained free upon request.

PENNSYLVANIA RE-ORGANIZES ITS SANITATION PROGRAM

Mr. Karl M. Mason has been appointed Director of Environmental Health Services in the Pennsylvania State Department of Health, it was announced by State Secretary of Health, Dr. Russell E. Teague.



Under a new organizational plan, the Department of Health has combined its operating units into three groups — Preventive Services, Local Health Services, and Environmental Health Services. As Director of this latter group of units, Mr. Mason will direct the functions of the Bureaus of Sanitary Engineering, Sanitation, and Industrial Hygiene which include the supervision of public water supplies and sewage disposal, industrial waste treatment and mine drainage, public bathing places, the sanitation of restaurants, camps and schools, the protection of the health of industrial workers, the elimination of air pollution, and the prevention and abatement of public health hazards.

Formerly the Director of Professional Training in the Department of Health since 1951, Mr. Mason was graduated from the Pennsylvania State College in sanitary engineering in 1939. He obtained his experience with health departments in Michigan and Illinois and his graduate degree in public health at Columbia University before returning to Pennsylvania in 1949 as Director of the Pittsburgh Field Training Center.

ARE YOUR FIELD CALLS PAYING?*

CARL J. YEAGER

Procurement and Sanitation, Beatrice Foods Inc., Denver, Colorado

A discussion of some of the fundamental principles that are involved in the economics of the mission of a fieldman. One whose duty has been mistakenly classed as "unnecessary and unessential"; a job of conglomerating duties whose expense can run as high as 85 to 90 percent of the total cost of procurement; a job that demands a thorough understanding of the character of people and a man whose integrity and principles are unquestionable; yet a job and duty whose salary today is very little more than it was twenty years ago. Chart and figures with brief notations are used to illustrate the importance and need for correct and adequate records.

I'm going to discuss three major points concerning the economics of your field calls.

1. The actual cost of field calls.
2. The use of correct and adequate records.
3. The axioms for getting things done through people.

I have personally made between February 1st and December 1st, 1953, (ten months) 1554 calls in 215 working days, drove a total of 19,077 miles, burned 1118 gallons of gasoline, and used 41 quarts of oil at a total cost of \$4775.66.

The question is: are your calls worth all this?

I have 234 milk producers to call on as regularly as I can get around. Twenty-one of these dairymen have been called on 207 times in 10 months, or an average of 9 calls each at an average cost of \$27.09 per shipper. In 10 months, 14 percent of my time has been spent on approximately 9 percent of my clients at a total cost of \$623.07.

Again I ask you: are these marginal shippers, so determined by their own established records of either high bacteria counts, poor sediments, or low scores on their health department survey sheets, or a combination of all these factors, worth this time and money?

The only possible way that I know of whereby one can establish and determine this answer is through the use of correct and adequate records.

RECORDS

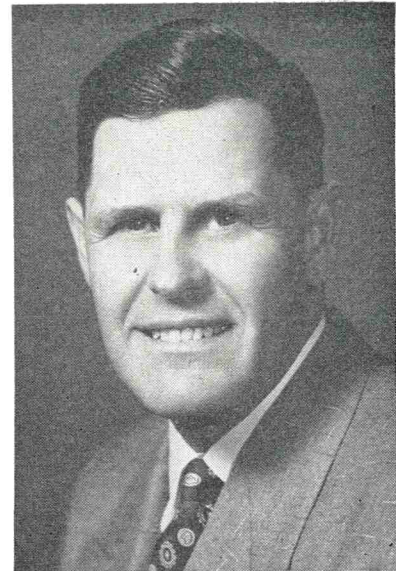
Any kind of record is certainly better than no record; but in-

adequate records that fail to provide you with the pertinent data required at a particular time and place are insufficient, time consuming, and definitely costly. Before any definite system of records is established, considerable time and study must have been spent in determining exactly what records are required. This record must give you the exact and quickest answers possible to the general and average questions involved. Your time and energy are wasted and extremely costly if you have not answered all your client's questions and definitely helped him.

You might ask: how do you know if you have helped him? I'll ask you. How do you expect to know if you haven't kept accurate and sufficient records to establish an answer? You can't fire your guns if your powder is wet; and your powder is definitely wet if you attempt to make a field call with inadequately kept records. It is a "knack" to know how to keep records, and a fieldman must constantly be alert to forthcoming questions of his shippers so that he can make proper use of his records.

Right now in our own Denver market there is a definite need for accurate and readily available records to advise and help the dairyman who today is contemplating buying more cows to help establish a better base in our forthcoming base-surplus marketing plan. How do you expect to give him the data needed if you are asked about Fred Smith's cows as to their value and milk production record if you haven't kept and maintained proper records as to their butterfat test and monthly pounds of production? We are all so willing to help someone, but do you really help this dairyman when you give him data that is by "guess" and by "gosh"?

Now, briefly, some of the items of the log of each producer you should be keeping are: milk can number, Health Department permit number, brucellosis permit number and date, kind of hot water heater, kind of milk cooler, kind of milking



Mr. Carl J. Yeager graduated from Colorado A & M with a B. S. degree in dairy manufacturing and animal husbandry. He held a Second Lieutenant commission in the Field Artillery Reserve. He has been employed in nearly every capacity in delivery, milk plants, and office administration in Denver, Grand Junction, Colorado and Everett, Washington. He was called to active duty in the Air Corps in June 1941, discharged in February 1946, and employed by the dairy industry as fieldman. He again was called to active service in Air Force March 1951, discharged January 1953 as a Lieutenant Colonel, and took up former work in the dairy industry. He was President of Fieldmen's Association of Colorado Dairies during 1949, 1950, and again in 1953.

machine, fat test by 15-day periods, total pounds of milk per month produced, raw bacteria count, pasteurized bacteria count, sediment, and date of farm visit (this item alone is worth all the time it ever takes to post). One of the toughest spots I've ever worked myself into, accidentally, of course, was straightened out honestly, accurately, and fairly, by showing the producer his log sheet and what had taken place and was found on my last farm visit by date.

If you can not keep your clients on the defensive you are not being a fieldman when it comes to quality control. You should have the ammunition, dry, too, and you had better fire it after you have listened —I repeat LISTENED.

*Paper submitted for publication March 16, 1954.

As you make your farm visit, other essential items that you should keep are: are the milkhouse, barn, and outside surroundings clean; are the milkhouse and barn free of flies; is the water heater working; are the wash vats clean and free of grease; is the utensil storage clean and well drained; are the cooling facilities satisfactory; were the inflations, tubes, and gaskets boiled in lye during the past 10 days; is the stanchion hose for the milking machine clean; is there an adequate supply of washing powder, sterilizing agent, brushes, and filter pads on hand? You can't smoke a cigar if you don't have one—so how can a producer operate efficiently without the basic necessities?

Proper records should be maintained on the condition of the milk pails, strainer, milking machine pails, milking machine head or lid, claws and pulsators and, without failure, the milk cans. More producers have poor quality milk due to improperly cleansed, sterilized, and poor condition of the cans than any other one item alone. Too many fieldmen are too tired and afraid they will get dirty to take the cans down off the racks and inspect them.

GETTING COOPERATION

Are your field calls paying? If not, here are some axioms for getting things done:

1. Make your producers want to do things. This is one of the really basic rules for getting the job done. The man who gets results through others is the man who is a leader, not a driver. People do things reluctantly for a driver because he forces them into it. They do their job enthusiastically for a leader because he makes them want to follow his wishes. There are many ways of getting people to want to do things. But one warning is in order: Making people want to do a thing is a much more skilled and subtle process than "selling" them on doing it. That usually is just another name for forceful persuasion, and it is no more effective.

2. Study your producers and determine what makes them tick.

Continuous study of the producer under a fieldman is a "must" for getting things done through people. Their motives and attitudes are the main tools you must use, and they can be determined only by study.

Since security is the main drive of many, if not most people, building up the importance of their work and of themselves is an effective way to get the best from producers.

People vary widely in many other characteristics. Well-timed praise may spur one producer to new heights of effectiveness. But it may only inflate another; a better spur to his effort might be constructive criticism. A third individual may wilt under any kind of criticism; some other factor is needed to make him tick, and the capable fieldman hunts for it.

He also searches beyond the office for background. People's motives and attitudes are heavily conditioned by personal history and home life. Thus, tactful drawing out of producers can reveal invaluable information for handling them. See the next axiom.

3. Be a good listener.

The fieldman who knows his producers—their worries, personalities, touchy points, and pet prides—knows why they tick and what motives stir them. The best and fastest way to know them is to encourage them to talk, to draw them out, to ask questions. A good listener does this best; a "teller" encourages them only to be silent. Never dominate a conversation or a meeting unless for a good reason.

Excellent policy: if both you and one of your producers start to say something at the same time, always give him the right of way.

Objection to the idea of being a good listener: It takes time to draw people out. Answer: It takes time to determine the cause of a situation, too. Both are essential to the fieldman's job.

4. Criticize or reprove constructively.

Get all the facts. Review them and win agreement on them. Then suggest a constructive course of action for the future. When you criticize be sure it's the method, not the motive that is questioned. If you can precede the criticism by a bit of praise, so much the better. But some fieldmen do this so regularly that their producers get wise and the compliment loses its value.

5. Criticize or reprove in private.

Obvious? Perhaps. But this fundamental rule is broken every day in hundreds of milkhouses.

Reprimands in the presence of others cause shame, humiliation, and resentment instead of a desire to do better next time. To criticize a dairyman while his hired man or another farmer are present undermines his authority as well as his morals.

6. Praise in public.

Most people thrive on judicious praise, and praise that others can hear has multiple impact. It raises the morale, standing, and self-confidence of any man. That is important in developing capable dairymen. But be sure that the person who is praised is the one that deserves it, and that other people who are involved get recognition too.

7. Be considerate.

Nothing contributes more to building a strong, hard working, loyal dairyman than a considerate fieldman. He is courteous to his producers. He puts himself in their place before making any decisions affecting them. He realizes they have tough problems of their own, both business and personal. He knows that they have pride, personality, and self-respect, and that he will get much more effective work by treating those characteristics as assets than by trampling on them.

8. Give credit where it is due.

Taking for yourself credit that really belongs to one of your producers destroys his initiative and willingness to take responsibility. Giving him proper recognition for what he does has a double kick. He gets credit for doing the job; the fieldman gets credit for building an able producer.

9. Avoid domination and "Forcefulness".

Anything of this kind breeds "yes men". A dominant fieldman and producers with initiative just don't get along. The over-forceful fieldman can only drive people—never as resultful as the eager cooperation of those who follow a leader. The able fieldman thinks of his shippers working *with* him and not *for* him.

10. Show interest in and appreciation of the other fellow.

This is another way of saying, "Be a human being". Not all people are warm-hearted by nature. But even the coldest-blooded fieldman can easily take steps to warm

his relations with the people with whom he works. For instance, use first names; make occasional unplanned luncheon dates with one or two at a time; find a way to mention hobbies, family news, or other not-too-personal matters; hold informal bull sessions on business or nonbusiness topics. Moves of this sort pay dividends many times over in loyalty and accomplishment.

11. Make your wishes known by suggestion or request.

If your producers have initiative, and no doubt some or practically all of them do, this will get vastly better results than orders. Issue them only as a last resort. And if you find that only orders work, maybe you'd better look for some new producers—or the company for a new fieldman.

When you make a request or suggestion, be sure to tell the reasons for it. People want to know not only what they're doing but why they're doing it. The explanation can be oral or written. But be sure to make it.

13. Let your producers in on your plans and programs even when they're in an early stage.

It is true that plans can not be discussed with producers too far in advance. But they should be discussed before they are in the final form. It will give them that all-important sense of participation. Furthermore, because they have taken part in shaping the plan it is as much theirs as yours. They feel personal responsibility for its success and they will carry out the program with snap and precision.

In addition, some of your producer's ideas may improve yours—so draw on them before it is too late.

14. Never forget that the fieldman sets the style for his producers.

If he is irregular in his habits, late for appointments, careless about facts, bored in attitude, they will be too. They will follow a good example much more eagerly than a bad one.

15. Play up the positive.

Just as praise is a better stimulant than criticism, so appreciation is better than lack of it, and building up a person's self-respect is more resultful than tearing it down. People who are capable of being producers need and want respect from their fieldman. In building, but certainly

not overbuilding, their self-esteem, the fieldman builds capable producers—and thus builds himself.

16. Be consistent.

A fieldman who flies off the handle and sets off fireworks frightens producers into their shells, and he may wind up with a black eye or smashed nose; neither can you win the support and confidence of your producers. A fieldman and his producers are in the position of a leader and his followers. One can truly follow only the leader whose course is steady and whose reactions are predictable.

17. Show your producers that you have confidence in them and that you expect them to do their best.

Fieldmen—and every one else for that matter—tend to perform according to what is expected of them. If they know their boss has the confidence in them to expect a first-rate job, that's what it will usually be.

18. Ask your producers for their counsel and help.

This brings them into the picture, gives them a feeling of "belonging", and builds self-confidence. It makes them want to work harder than ever. What is more important, they have good ideas which may never see the daylight unless asked for.

19. When you're wrong or make a mistake, admit it.

No producer expects his fieldman to be infallible, so no fieldman loses face when he admits he is wrong—if he isn't wrong too often. What you will gain is confidence in your fairness and honesty, an asset beyond price to a fieldman. Remember, one thing about the truth is that you don't need a good memory.

20. Give courteous hearing to ideas from the producers.

The ideas may sound fantastic, but it's important not to let them know it. There is no surer way to discourage ideas from subordinates than disparagement or ridicule—and the next idea from the person you ridiculed might have been the one you wanted.

21. If an idea is adopted, tell the originator why.

Then he'll apply to other problems the same line of thought that got results in this case. If the idea is not adopted, tell him why,

too. If the reasons are good, they will be accepted with good will. If they aren't, maybe the idea should have been bought after all. Proposed ideas that disappear into a void and are never heard from again discourage additional ones.

22. Give weight to the fact that people carry out best their own ideas.

When two ideas of equal merit crop up, it's usually good strategy to choose the one developed by the person who will carry out the project. He will feel personal responsibility in proving that his idea is workable. It is good executive strategy, therefore, to plant the seeds of ideas in the minds of others so that those who execute them will feel they are their own.

23. Be careful what you say and how you say it.

Plan in advance what you are going to say and how you are going to say it whenever you have an important talk with a producer. Choose your words with care even in seemingly unimportant talks and chance remarks.

What a fieldman says has special impact on producers. An unintended inflection of the voice, careless choice of words, by-passing a subject a producer has brought up, can only breed misunderstanding and insecurity that interfere with efficient work. Thoughtless remarks, forgotten in a flash by those who made them, cause restless nights and resultless days for those who hear them.

24. Don't be upset by moderate grouching.

In small doses griping serves as a safety valve for a characteristic of human nature. People working under the perfect administrator probably would still grouse because he was perfect. But vicious, personal griping is another matter. The reason has to be determined and the cause rooted out.

25. Use every opportunity to build up in the producer a sense of the importance of his work.

People like to think their jobs are important. Many of us even have to feel that we not only have an important job but are essential in it before we start clicking.

26. Give your producers goals, a sense of direction, something to strive for and achieve.

PRODUCER'S NAME
 CAN NO. 133
 PERMIT NO. 392

KIND OF COOLING Duncan
 KIND OF MILKER Surge
 KIND OF BULK COOLER

B-3192 4/53 Holsteins

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
Test 1st - 15th	3.7	3.5	3.4	3.3	3.2	3.3	3.3	3.3	3.3	3.3	3.5	
Test 16th - 31st	3.7	3.5	3.4	3.3	3.3	3.4	3.3	3.2	3.2	3.4	3.4	
Raw (bonus) Count	30,000	160,000	10,000					120,000				
Sediment	F	F	G	F	G	G	G	G	G	F	F	
Past (Company) Count	82,000	4000	TNTC	700	137,000	25,000	150,000	RR-20,000 52,000	RR-33 15,000	900	6700	
Lbs. Milk Shipped	6654 7661	8177 6909	8112 9259	8168 7207	6900 8279	7754 7516	7302 8333	7484 5294	4084 3749	4149 5381	5062 5279	
Dates of Farm Visits		12	10	3, 22, 29		5 NH 8, 23	16	6, 15, 26 31	3, 11, 29	6	12	
Is interior sealed and clean		Due to test for Bangs	Bangs tested	Bangs Application		Cows late lactation	Run whiteside test	Run whiteside test	Left ferrule for cleaning rod	Caught sample for rerun	Count down	
Is the milk house free from flies				Reduced bacteria count		Mastitis	2 cows suspicious	3 cows Mastitis				
Is water heating equipment in working condition						Flavor and odor		2 cows Mastitis	Saw him about count reduction			
Are wash vats clean and free from grease						Unclean smothered		Due for farm insp.				
Is utensil storage clean and well drained									3 cows late lactation			
Are cooling facilities satisfactory						Milk-stone Milk Residue		Milk Residue	7 lb. Gladys 7 lb. Alice			
Were inflations, tubes and gaskets boiled in lye during the past month								Milk-stone Residue	7 lb. Bobbv			
Is hose for milking machine clean												
Is there an adequate supply of washing powder, sterilizing agent and filter pad												
Is there a dust proof cabinet for supplies												
Milk pails												
Strainer												
Milking Machine Pails												
Milking machine head including milking inlet												
10 gal. cans												

KEY TO THE COLORS AND ABBREVIATIONS OF CHART

1. B-3192 4/53 is the State Department of Agriculture Veterinary Section brucellosis permit number and month of year permitted. Blue color was used for year 1953 and red is being used for year 1954.
 2. Raw (bonus) count. Blue 10,000 is the lowest and best count the city and county of Denver Health Dept. will give; 11,000 to 200,000 inclusive is recorded in black; over 200,000 is

recorded in red.
 3. Sediment—F—fair—in black
 G—good—in blue, best score given
 P—poor—in red
 4. Pasteurized (company) count. In April of 1953 the City and County of Denver changed their scoring of high quality milk based on bacteria count from the raw (bonus) count to pasteurized (bonus) count. A count of 100 is the lowest they will give. Any shipper whose pasteurized count is 100 to 1000

inclusive is recorded in blue; 2000 to 10,000 inclusive black; 11,000 and up red. TNTC—means too numerous to count.
 5. Dates of farm visits. If more than one call is made on a producer in a month, a different color is used to record date and what action or reason led you to visit his farm, or what you observed in error, etc. If a call was made and shipper was not home as noted on 5 June, a NH is placed after date indicating (not Home).

Producers need to know where they are going, what they're doing, and why they're doing it, in order to plan their course intelligently and work efficiently. Good producers can not get interested in working from day to day. So make clear the relation between their day to day work and their larger goals.
 Don't, for example, stop with asking a man to study the causes of

a high bacteria count: tell him that it's part of a plan to provide leeway for price increases, and that the knowledge gained will strengthen his chances for a better market.
 Give your producers information about your job, company, and industry so they can see themselves and their work in perspective.
 27. Keep your people informed on

matters affecting them.
 Let them know in advance whenever possible. As a member of a team, they feel entitled to know what is going on. If they do, their thinking will be more geared to reality and their ideas more practical.
 28. Give your producers a chance to take part in decisions, particu-
 Continued on Page 293

THE FEDERAL FOOD, DRUG AND COSMETIC ACT AND ITS EFFECT UPON THE RETAIL FOOD INDUSTRY* **

MILTON L. SELBY

Secretary and General Counsel, Safeway Stores, Inc., Oakland, California

I am honored to have been selected to speak for the food retailer at this conference. I am also somewhat surprised at my importation from Northern California since Los Angeles has for years been recognized in our industry as the home of the largest and best operated retail food stores in the world. I know from personal experience how "tough" the owners of these stores can be as competitors.

As the title indicates, I have been asked to discuss the Pure Food and Drug Laws from the view point of the food retailer. Some of you may wonder why a grocer should be interested in laws whose general application is at the manufacturer or packer level. Food retailers, and I am sure the same is true with respect to retail druggists, however, know that these laws have a definite and a very beneficial effect upon their business and the livelihood it brings them.

NEED FOR PURE FOOD LAW

In the advanced society of "Shangra-La" as depicted a few years ago in "Lost Horizons", selfishness was practically unknown, enlightened self-interest was compatible with the common good and there was no need for governmental regulation of business.

The society of this century, however, has not achieved Shangra-La status. Our elected representatives have been forced to enact laws to protect us from our own selfishness and in order to make these laws effective, have established agencies to regulate and police our business activities. As an over-simplification, I think of the Federal Food, Drug and Cosmetic Act of 1938 and its predecessor of 1906 as social legislation of that type—an inducement, or prod, to do that which is in our own best interest.

The year 1956 will mark a half

*An address delivered at the Public Conference on the Food and Drug Law, held in Los Angeles on May 15, 1954, under the joint auspices of the University of Southern California School of Law and The Food Law Institute.

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century of federal food regulation in the United States. Progress during that period has been impressive. Its historical record is well presented in the Administrative Reports, 1907 - 1949, published in the Food Law Institute Series, and in the publication of proceedings at the commemorative meeting in 1946 held under the auspices of the New York State Bar Association.

The favorable results and the minimum of conflict in this development and expansion of federal regulations are a tribute to those who sponsored the legislation and to those who have since administered it. Its success is also due in no small part to the generally cooperative attitude of the food and drug industries toward the objectives of these laws.

As a basis for evaluating benefits to the retail food industry from the Federal Food and Cosmetic Act, I suggest that we first define the industry's long-range objective. I offer the following as a simple statement of this objective: To gain and hold the confident patronage of consumers.

If, for the purpose of discussion, we accept that as our objective, we can see that it obligates us to supply our customers with quality products and satisfying service at reasonable prices. The retailer who does this will progress while the one who does not will soon fade from the picture. It is in earning and holding the confidence of his customers in the products sold by him that the food retailer realizes his greatest benefit from the pure food laws.

The subject assigned to me does not comprehend a discussion of provisions, such as factory inspections, which directly affect food processors and manufacturers. I shall only mention that there are such provisions and that they serve as added "inducements" to our suppliers to guard the quality of the goods they ship us—and go on to factors more specifically related to the retailer.

Most manufacturers and processors of food products aspire to a long period of continued success.

It is elemental that repeat orders from satisfied distributors of their products are essential to that success. The economics of the industry, therefore, constitute a compelling influence for supplying quality merchandise. The Federal Food, Drug and Cosmetic Act serves as an additional "inducement" in those cases where economics alone are insufficient to protect the retailer and his customer.

LABELING

The standardizing of foods—subject as it may be to differences of opinion — provides specifications which have substantial value in dealings between retailers and their suppliers. As a simple illustration, an order for canned peaches in which optional ingredients are specified as "peeled quarters" and "heavy sirup", uses terms which are well understood by both contracting parties. I know of at least one retail organization which consistently uses the standards as specifications in purchasing merchandise packed under both supplier's and its own brands. The last few years have seen a growing acceptance of this practice and I understand that it is now quite general for the industry. I will have to admit that at times we feel unhappy with the "mourning" bands of substandard quality. However, this feeling is more than offset by the knowledge that without such standardization we would suffer at the hands of unscrupulous suppliers and competitors.

Labels which meet the requirements of the Act and regulations carry basic information to which consumers are entitled. You, of course, are well acquainted with these requirements which are in the nature of a common denominator for all food labels. However, I'll list them to support what I believe is a reasonable conclusion, namely, that giving them readability on our labels benefits all interested parties:

(a) the common name of the product. — The need for this is obvious.

(b) a list of all ingredients or of optional ingredients and a declaration of artificial color, artificial flavor, or chemical preservative, as the situation may require. — If as sellers we remember our other status as consumers, it will be easy

to recognize the need for these disclosures.

(c) a net quantity statement. — This is a contract essential as well as a fundamental protection for both the consumer and the retailer.

(d) the name and address of the producer, packer or distributor. — Here is an opportunity for the supplier or distributor to indicate pride in his product. It also serves to relieve the retailer of responsibility for poor merchandise or improper packaging when he is not the processor or packer.

(e) a dietary statement, when relevant claims are made. — I'm somewhat hesitant to get into a discussion of this feature so I'll just make the passing comment that the required information is educational — although we may not understand it. However, in this era of "additives", the statement does have real importance.

I have been told that the requirements above listed are the "stones" of a "wailing wall" for people who earn their living designing labels. These artists have a preference for art work and would like to relegate the mandatory label information to the back panels or the bottoms of containers.

The requirement that the container must not be misleading protects the retailer in his contract dealings with the processor and in his relations with the consumer. We must remember that the consumer is buying not the container, but the contents of the package and that she will be disgruntled, to say the least, if she finds that her purchase could have been packed in a corner of the container used.

I am convinced that making essential product information readily available on the label, and insisting that all containers be fully filled, are real factors in earning the confidence and continued patronage of our retail customers. I can't agree with those members of the food industry who contend that the readership appeal of mandatory label information is so far less than 100% that it is of little value. If education of the consumer is required, it may be that the industry should do more work along the line of the brochure "Read the Label" which was published in 1951 by the Federal Security Agency to stimulate and educate consumer use of

label information.

QUALITY STANDARDS

The food processing industry is extremely competitive. Survival may depend on the outcome of a battle of costs and all processors are conscious of the need for economies in their operations. However, when the pressure for economies leads into such temptations as substitution of ingredients, or relaxation of quality controls, or questioning the need for sanitation measures, the Federal Food, Drug and Cosmetic Act serves as an influence for caution and as a protection to the retailer and his customer. When this need for caution goes unheeded the erring proprietor gains instruction (at substantial expense) in such legal procedures as the application of admiralty rules to seizures on land.

The commodity guaranty provisions of the Act deserve and should have greater retailer attention and understanding than is now given them. These sections relieve the retailer from responsibility for failures and violations over which he has no control and if understood, would be demanded by the retailer from all suppliers on all purchases. Too often, it is the unethical manufacturer who fails to include the guaranty in his sale agreement. The guaranty, by the terms of Section 303, simply gives the retailer an exemption from penalties under specified circumstances. However, in the course of business relations between the retailer and his supplier the guaranty can have a much broader significance and much more importance. Our experience is that suppliers have no hesitancy in responding to a request for a continuing guaranty that their products will not be misbranded or adulterated. They often use the request as an opportunity to explain the quality of their products, and in many instances back up their assurances with an indemnity agreement, or a certificate of product liability insurance or both.

Lest this recital be misinterpreted as indicating that the benefits derived by the Retail Food Industry are at the expense of suppliers, I want to assert that the benefits are not one sided and that they accrue to suppliers as well as to retailers. The Act, it is true, is basically a health measure and its primary

justification is the increased likelihood that food will be in a good wholesome condition when consumed. However, the factors which help retailers sell food to consumers, stimulate the movement of goods from suppliers to their outlets. Also, the need to meet the requirements of the Federal Food, Drug and Cosmetic Act in order to compete in commerce, gives ethical business substantial protection against chiseling by unethical or shortsighted competitors.

The importance of the Federal Food, Drug and Cosmetic Act to the retail food industry is becoming more and more apparent as time goes on. When the law was enacted in 1906, food processing was of little importance to our economy and the retail food business was still in its "cracker barrel" stage. Food products were processed locally and sold from barrels, tubs and bins by dingy corner stores. Little thought was given to sanitation by either the store proprietor or his customer and purchases were carried home in containers supplied by the customer or in a used box or an old piece of wrapping paper furnished by the grocer. Lack of refrigeration limited perishable products handled to those in dried or smoked form and overall sales of the store were held down by poor transportation which made it impossible to draw customers from any distance. Improved transportation, the development of large central processing plants with up to date processing and packaging machinery, the evolution of the retail food store from the "cracker barrel" stage, growing concern as to sanitation and health, the housewife's aversion to home canning and preserving and her desire to use the retail food store as the sole source of supply for her family's food needs have all helped to increase the value of the Federal Food, Drug and Cosmetic Act.

The demand for greater variety, better tasting and more nutritious foods has resulted in many improvements in the processing plants, in methods of transportation and in the retail food stores. Those of us who are in the retail food business like to think that the greatest development took place in our industry. A comparison of the

dingy, unsanitary "cracker barrel" store common to the early years of the century with the modern supermarket constructed, equipped and stocked at a cost in many cases of more than a million dollars proves that we have good reason for this belief. The substantial investment in the retail store and the great distance from which trade must be drawn makes customer confidence in the products sold of prime importance to the present day grocer. I do not believe he could maintain the consistency in quality required for this customer confidence without the help of the pure food laws and the enforcement activities of the FDA.

It has been necessary for the FDA to grow with the food business and to develop and revise its enforcement procedures to meet changes in that industry. Its history of progress from the supervision of localized packaging and processing during the early years of the century through the regulation of large central processing plants and on to the recent development of freezing techniques for food preservation, gives one complete confidence in the Administration's ability to meet any challenge that may arise in the future.

ENFORCEMENT CONTRADICTIONS

I think it only proper at this time to list a few places where we believe the Act and its enforcement could be changed to the benefit of the public. A recent incident which might be called "The Case of the Mixed Mackerel", illustrates how improved coordination in the administration of the Act could result in a saving to the food industry, without prejudicing or injuring the customer.

The invitation to speak at this meeting came at a time when my Company was negotiating a settlement with a supplier for loss due to federal seizure of a shipment of canned fish. It seems that some *Trachurus symmetricus* had become entangled in a catch of *Pneumatophorus diego* and were canned without benefit of segregation. Now, quite correctly, *trachurus symmetricus* should not be allowed to masquerade as *Pneumatophorus diego*, so there was no question but that the Food and Drug Administration properly initiated seizure. However, the case became so

complicated by a difference of opinion as to a common product name that could be used for the pack that the supplier found it impossible to relabel the goods and suffered a total loss on the merchandise. It so happened that several districts of the Food and Drug Administration held different views on the matter. The opinion of the district in which the fish was packed—and incidentally also of the state authorities—was that the designation "jack mackerel" was sufficiently general to cover both types and that it would constitute a down grading of any Pacific mackerel in the can. Under that point of view a consumer buying "jack mackerel" would receive at least what she paid for and would benefit from any of the higher grade product that happened to be in the container. The situation seemed comparable to the general acceptance of the designation "jack salmon" as a down grading of the more highly regarded types of salmon. However, the district in which the fish was seized would not accept that view and concluded that the product could not be satisfactorily relabeled.

Another recent experience illustrates how a difference in views between separate departments of the government—the Food and Drug Administration on one hand and the U.S. Department of Agriculture on the other—can result in a substantial loss to the food industry. From the point of view of the USDA—and the authorities of the state in which the goods were processed—this instance might be termed "The Case of Grade B vs. Grade A Frozen Eggs". To the Food and Drug Administration it was simply a case of decomposition. The F.D.A. prevailed, even though the vote was two to one against its ruling. Strangely, a portion of the same lot, which was not shipped in commerce, was sold after clearance by the state and found to be entirely satisfactory.

DEPLORES SERVICE TO SPECIAL INTERESTS

Since I have already diverged from the strict limitations of the subject assigned to me, I will make the further comment that it disturbs me to have the Food, Drug and Cosmetic Act distorted for the benefit of special interests and the

enforcement efforts of the federal government directed toward problems that are properly within local jurisdiction, all without resulting advantage to the consumer. I refer to subdivision (c) of Section 407, as amended by the Oleomargarine Act of 1950. This section does not affect food retailers, so my opinion cannot be said to be influenced by any selfish interest. Instead, it regulates the manner of serving margarine in local eating places, and imposes on federal officers the burden of enforcement of the regulation. Consider this provision in relation to its use of the powers of the federal government:

"Sec. 407 . . . (c). No person shall possess in a form ready for serving colored oleomargarine or colored margarine at a public eating place unless a notice that oleomargarine or margarine is served is displayed prominently and conspicuously in such place and in such manner as to render it likely to be read and understood by the ordinary individual being served in such eating place or is printed or is otherwise set forth on the menu in type or lettering not smaller than that normally used to designate the serving of other food items. No person shall serve colored oleomargarine or colored margarine at a public eating place, whether or not any charge is made therefor, unless (1) each separate serving bears or is accompanied by labeling identifying it as oleomargarine or margarine, or (2) each separate serving thereof is triangular in shape".

My criticism is not directed to any product or industry. Instead, I cite the provision simply to illustrate what I consider to be unrealistic regulation and an improper use of federal enforcement authorities.

In contrast with the situation just mentioned, was a recent administrative revision of the policy covering the shipment in commerce of frozen desserts containing vegetable fats. It is my understanding that the modification will permit the interstate movement of such products if correctly labeled. To me this represents an enlightened administrative move toward the elimination of artificial restrictions that are

Continued on Page 290

**A REPORT ON A SERIES OF IN-SERVICE TRAINING SEMINARS
FOR MILK SANITARIANS AND MILK INDUSTRY
REPRESENTATIVES CONDUCTED UNDER THE AUSPICES
OF THE INDIANA STATE BOARD OF HEALTH
DURING JULY, 1953**

HAROLD S. ADAMS

*Assistant Professor Public Health, Indiana University School of Medicine
and*

JOHN M. SCHLEGEL

*Division of Dairy Products, Indiana State Board of Health
Indianapolis, Indiana*

This article describes a series of in-service type training seminars for milk sanitarians and industry quality control men which were sponsored by the Division of Dairy Products, Indiana State Board of Health. These seminars gave particular attention to current milk sanitation problems and new developments in the field of milk production.

Participants included industry sanitarians, Veterinarians, County Agricultural Agents and Dairy Technologist.

The plan of operation may prove useful to milk control officials in other areas.

INTRODUCTION:

In-service training seminars for public health personnel are not new. They have been conducted previously by a number of agencies. The Public Health Service frequently conducts such seminars for its own milk and food consultants, and assists states and regions in holding seminars for state milk sanitation control officers.

Indiana recently held a total of sixteen in-service training seminars which were unique in some respects. First, the meetings were planned whereby one per week for four consecutive weeks were held in four separate locations during the month of July, 1953. This plan was used to allow persons to be present who could not afford to be away from their regular duties for an extended number of days. While such a program is rather tiring on the traveling staff, the results, as far as attendance was concerned, would indicate that this plan was quite successful.

Another point somewhat unique in character involved the fact that not only were milk sanitarians from official agencies present, but milk plant sanitarians and, in many instances, milk plant owners and operators were present as well. The State Division of Dairy Products had recognized for some time the important place milk plant sanitarians play in an overall milk

control program, and it was a wise decision that these men were invited to attend. Their contributions were outstanding and they were an interested and alert group throughout.

Another noteworthy feature of the program was the fact that discussion leaders were represented by industry, by county agricultural agents, members of Purdue University faculty, and a representative of the U. S. Public Health Service.

GENERAL CONTENT OF THE SEMINARS

Topics were selected which seemed most pertinent and timely. Particular attention was given to aspects of milk sanitation which were new or are in the developmental stage. No attempt was made to go over item by item many of the interpretations and policies outlined in the revised U. S. Public Health Service *Milk Ordinance and Code*. Rather, discussions were limited to changes in methods of milk production and milk handling, both at producing farms and at milk plants.

The matter of animal health was considered because the 1953 recommendations of the *Milk Ordinance and Code* require a change in emphasis concerning both the tuberculin testing and brucellosis testing of dairy animals. One-half day of the first meeting of the series was devoted to a discussion of these two diseases. Some of the problems facing the dairy industry in Indiana, involving both the tuberculin testing program, but more especially brucellosis control, were emphasized. Discussions clarified both what is being done and what can be done to foster and encourage more rapid testing of dairy animals for these diseases. Members of the state veterinarians' staff lead the discussions at these sessions.

Also, at this first meeting the subject of private water supply specifications and sanitary methods of sewage disposal were discussed. The location, construction, and operation of private water supplies is a critical matter in most milk sheds, and it was felt that this discussion on water supplies and sewage disposal was particularly important for the entire group.

The second meeting gave consideration to three separate subjects. In the morning session the discussion pertained to changes in definitions and standards of identity for milk and dairy products as outlined in the 1953 Public Health Service Milk Ordinance. These were compared with definitions appearing currently in State regulations. Following this, a procedure was outlined which could involve changing both state regulations and local milk ordinances from the 1939 edition to the revised edition. The second subject on the agenda of this meeting gave consideration to in-place cleaning of sanitary pipelines at milk plants. The third topic covered at the afternoon session involved tests and special equipment that is needed for checking high temperature short time pasteurization. The session was opened by showing a film strip on the basic theory of high temperature short time pasteurization. This was followed by a 16 mm film showing exactly how thermometer and other accuracy tests and other determinations should be made on high temperature short time pasteurization equipment. The group then adjourned to a local milk plant where one of the state milk sanitarians demonstrated the actual testing of a high temperature pasteurizer.

The third meeting of the series gave consideration in the morning to the newer method of handling milk by the so-called "cold wall tank", method which is becoming more popular at milk producing farms. Many of the problems surrounding this type of milk handling were discussed, including the transportation of the milk from farm to plant, the connections from the farm tank to the tanker, care of the milk in transit, and the cleaning and sanitizing of the cold wall tank by the milk producer.

The afternoon session was devoted to a discussion of laboratory procedures used for checking the

quality of milk. This included a discussion of the influence of antibiotics and bactericides in milk. Methods for testing their presence was reviewed by a representative of Purdue University.

At the fourth and final meeting, during the morning session, the subject was in-place cleaning of pipelines at dairy farms. Outlined were some of the problems and some of the features of this new method of milk handling which requires close scrutiny by milk sanitarians. The trend of milk producers to put in milking parlors which accomodate two to four cows was noted. This trend toward further mechanization of farm milk production raises a number of points for consideration by milk control personnel.

Specific standards for this type of installation are rather generally lacking because each installation is of a particular design to fit the needs of the producer installing it. All of those present were asked to submit bacterial count results on milk and inspection data on any farm pipeline installation in their milk sheds so that the State Dairy Products Division might study results and evaluate them.

The afternoon of the final session was devoted to a discussion of methods to promote the Grade A Milk Program. Stressed were such points as personal conduct of the sanitarian, educational and instructional methods to convince the milk producer that the production of Grade A milk is a definite mark of good dairy practice, and means whereby better and closer cooperation with health agencies and the County Agricultural Agents' program could be developed.

ATTENDANCE AND INTEREST

The attendance at all of the meetings was very gratifying. We had not anticipated the good response obtained. It was felt that because meetings were held in July, a vacation month, this would interfere with attendance. This did not prove to be the case, however, and at all the meetings the attendance was excellent and numbered in general between 35 and 50. The attendance throughout did not decrease, but on the other hand, the number attending increased. It is interesting to note that at meetings held in the southern part of the state, several of the Louisville, Kentucky, health department milk

sanitation staff attended. At the first meeting four men from Louisville were present and this increased in number until at the third meeting there were eight representatives present, five from the health department and three from Louisville milk companies.

GENERAL RESULTS OF THESE MEETINGS

It appears to the writers that these meetings realized two definite values. First, they gave persons involved in milk control work the best and latest thinking on new developments in the field of milk production, distribution, and handling. While cut and dried answers could not be given in all instances because standards still have to be revised and studied, the general discussions brought out many points which milk sanitarians and industry representatives should watch with alert interest. Audience participation was very good, and the question and discussion periods were always lively and interesting.

The second value, it is felt, is the fact that these meetings cemented more firmly the relationship between the State Board of Health and local milk sanitarians. The sessions demonstrated the fact that the State Board of Health had made a special effort to organize and sponsor a series of meetings where both official and industry sanitarians could discuss mutual problems and obtain views on newer developments in milk production and control.

SOME CONCLUSIONS

1. Meeting of milk sanitarians from official agencies and plant sanitarians aid in promoting good relationships. Both are in frequent contact with producers, and uniformity of interpretation in regard to milk production requirements is essential. Joint meetings encourage this objective.
2. Holding a series of meetings one day per week, rather than on two or more consecutive days in the same week, appears to encourage attendance and is generally favored by participants.
3. This series of in-service training seminars has stimulated local sanitarians and industry quality control men to organize and to hold meetings among themselves for purpose of discussing mutual problems.
4. As a result of meetings with local milk control officials, the staff of the State Dairy Products Divi-

sion became better informed on local problems and local activities.

5. Production, handling, and distribution of milk from the farm and from the plant is presently changing due to new developments. These must be carefully watched and appraised. These meetings offered an opportunity for full discussion of these newer procedures and an opportunity to formulate uniform plans for dealing with them effectively.

FEDERAL FOOD, DRUG AND COSMETIC ACT

Continued from Page 288

not in the public interest. As a member of the retail food industry, I am impartial as to products. The point I want to make is that the Act, or regulations under it, should not be used to protect an industry against competition, to discourage the development of new and cheaper foods or to deprive consumers of wholesome, properly labeled food products.

I have no sympathy with the demands for bigger and better governmental control of business so often heard during the last decade. However, regulation such as that under the Food, Drug and Cosmetic Act, is in the public interest and has a place in our present day business world. We can only hope that experience under the Act may in time influence industry to voluntarily operate in a way that will accomplish its objectives, thereby making the Act unnecessary.

Food and Drug Law Conference
Los Angeles, California
May 15, 1954

RESOLUTIONS COMMITTEE ANNOUNCEMENT

The Resolutions Committee is herewith requesting the membership to present to it matters of assignment for its consideration before the next annual meeting at Atlantic City. The members of the Committee are: Owen Owens, Rochester Dairy Cooperative, Rochester, Minnesota; Harold Barnum, Department of Health and Hospitals, West Sixth Avenue and Cherokee Street, Denver, Colorado; and K. G. Weckel, Department of Dairy and Food Industries, University of Wisconsin, Madison. Subjects for consideration may be presented to any one of the committee members."

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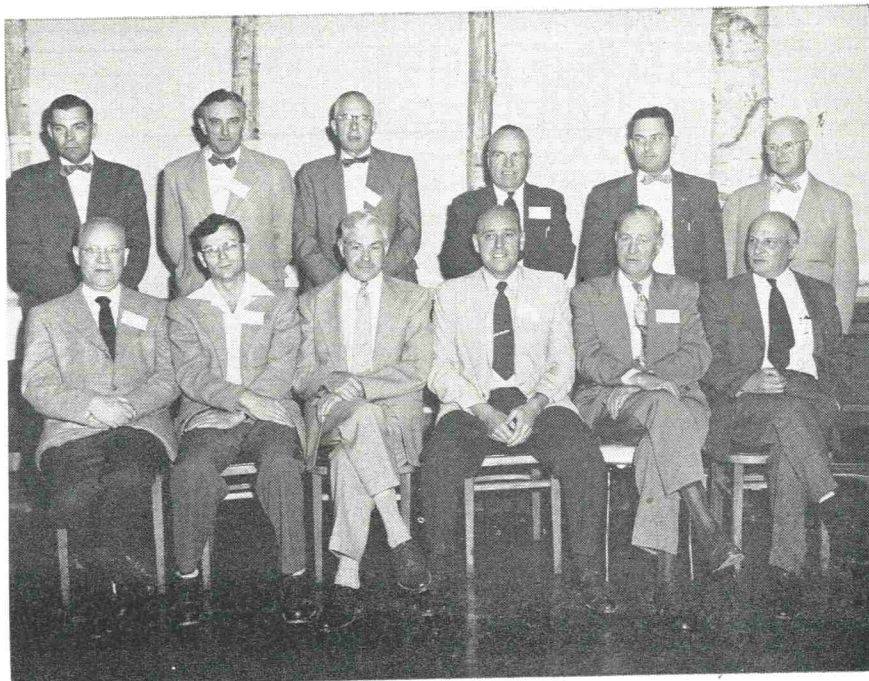
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The Farm Practices Committee of the N.Y. State Association of Milk Sanitarians meeting at Lake Placid, New York on June 8 and 9 during the Annual Health Conference.

Standing: Onslow L. Brown, Sheffield Farms, Inc., Norwich, N. Y.; Doctor Franklin L. Schacht, N. Y. State Dept. of Health, Albany, N. Y.; Dr. Harry G. Hodges, N. Y. State Mastitis Control Program, Ithaca, N. Y.; William Baulkwill, The Borden Co., White Plains, N. Y.; Caryl H. Du Mond, Syracuse Department of Health, Syracuse, N. Y.; H. Clifford Goslee, Connecticut Department of Agriculture, Hartford, Conn.

Seated: Walter H. Grunge, N. Y. City Dept. of Health, New York City; Dr. James C. White, Dept. of Dairy Industry, Cornell University, Ithaca, N. Y.; William O. Skinner, Westchester County Department of Health, White Plains, N. Y.; Dr. Robert W. Metzger, Chairman, Dairymen's League Coop. Assoc. Inc.; Floyd B. Carkhuff, Crowley's Milk Co., Binghamton, N. Y.; Max H. Shapiro, Rochester Bureau of Health, Rochester, N. Y.

Absent: Prof. Ivan E. Parkin, Pennsylvania State College, State College, Pennsylvania, Dr. Norman W. Bartz, Erie County Dept. of Health, Buffalo, N.Y.; Lawrence L. Clough, Department of Agriculture and Markets, Albany, N. Y.; James A. Stalbird, N. Y. State Dept. of Health, Albany N. Y.; David E. Morgan, Massachusetts Dept. of Agriculture, Boston, Mass.; Harry E. Bremer, Vermont Dept. of Agriculture, Montpelier, Vt.; Francis R. Brady, Sheffield Farms, Inc., Malone, N. Y.; Milton Ruth, New Jersey Dept. of Health; Donald H. Race, Dairy Products Improvement Institute, Ithaca, N. Y.

POULTRY INDUSTRY
RE-ORGANIZES RESEARCH

An entirely new working setup and a broadened membership for the Institute of American Poultry Industries' Research Committee has been announced by Cliff D. Carpenter, Institute president.

Dr. George F. Stewart, head of the poultry department at the University of California, will serve as chairman of the group, which will now be known as the Institute's Research Council.

Fourteen new members have been appointed, bringing the total membership of the Council to 49.

There are four main Divisions of the Council, with a separate chair-

man for each: (1) the Shell Egg Division, (2) the Egg Products and Byproducts Division, each with Poultry Meat and Byproducts Division, and (4) the Farm Production Division.

Three committees are already operating under the Egg Products and Byproducts Division, each with a specific assignment: (1) the Standard Testing Methods Committee, (2) the Salmonella Committee, and (3) the Ultraviolet Committee.

Under the Poultry Meat and Byproducts Division there are two additional committees, each working on a particular project: (1) the Packaging Committee and (2) the

Sanitation Committee.

"This type of setup will save time for the Council members," Dr. Stewart commented, "since many of them specialize in certain fields and have a direct interest in only part of the Council's activities And", he added, "it will divide our work load so we can handle it with greater dispatch."

The Council held a meeting June 25th and 26th at the USDA Western Utilization Research Branch, Albany, California, and the University of California, Davis.

MICKLE RETIRES FROM CONNECTICUT STATE HEALTH LABORATORY

After 35 years in the service of the State of Connecticut, Dr. Friend Lee Mickle, Director of the Bureau of Laboratories, was honored at a testimonial dinner by 160 associates and friends, followed by an open house attended by 225 to bid him farewell. He was presented with an album of photographs of present and former workers, and with a fine Argus camera, projector, and screen. He writes that he now is all set for an entirely new career. He starts off on a trip to Nova Scotia this summer, and to Florida for the winter.

Dr. Ira V. Hiscock, chairman of the Department of Health at Yale University, said of Dr. Mickle: "No man in the United States has done more to raise the standards of public health laboratory work than the man we honor here tonight."

Dr. Mickle first entered the state laboratories in 1910 when he came as a summer worker during his student days at Allegheny College.

ARE YOUR FIELD CALLS PAYING?

Continued from Page 285

larly those affecting them.

When people feel that they have taken part or had a say in the decisions, they are much more likely to go along with it enthusiastically. If they agree with the decisions, they will feel it is their own and back it to the hilt. If they don't agree, they will still know that their point of view was considered.

29. Let your people know where they stand.

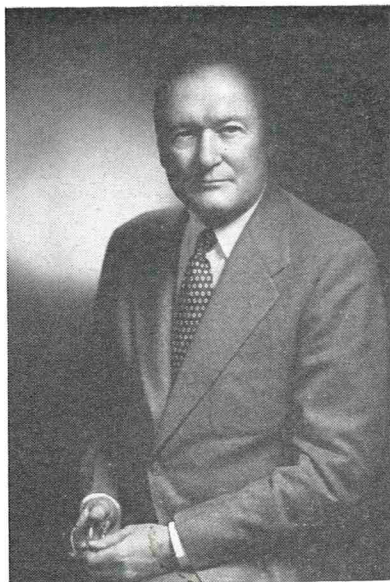
The day of "treat'em rough and tell'em nothing" has passed. Your records system should be one that

provides you with the necessary data to determine a producer's standing at any time. Maintaining proper records is a step in the right direction, but only if a producer's standing is discussed with him so that he can bolster his weak points and clear up misunderstandings.

30. A fieldman can profit by this creed:

"Do all the good you can,
By all the means you can,
In all the ways you can,
In all the places you can,
At all the times you can,
To all the people you can,
As long as ever you can."

Remember that if you have a good group of excellent producers and lay it to luck:—"Luck is what happens when preparation meets opportunity."



S. H. CROUNSE, PIONEER IN DAIRY SANITATION, TO BE HONORED DURING DISA CONVENTION

Silas H. Crouse, Manager of the B-K Department of the Pennsylvania Salt Manufacturing Company, well known and respected throughout the dairy industry for his accomplishments in promoting and improving dairy sanitation methods over the past 40 years, will be honored by Company and Industry associates during the Dairy Industries Supply Association Convention in Atlantic City next month on the occasion of his retirement October 31.

Through his association with the originators of B-K Liquid, the first

chlorine product ever used for sanitizing dairy utensils and dairy plant equipment, Mr. Crouse pioneered in chlorine sanitation on the farm and in dairy plants, and made many contributions to the industry during a long and successful career devoted to this field.

Born in Helena, Montana, he was educated at schools in Oak Park, Illinois, and graduated from the Agricultural College of Cornell University in 1912. He engaged in farming for three years before joining General Laboratories of Madison, Wisconsin in 1915. General Laboratories, founded three years earlier by the late A. O. Fox, were manufacturing B-K Liquid for the dairy industry.

The Pennsylvania Salt Manufacturing Company acquired General Laboratories in 1929 and Mr. Crouse was transferred to the Company's executive staff at Philadelphia in 1933 when he was appointed Sales Manager of the B-K Department.

Pennsalt continued to market B-K Liquid and subsequently introduced the sanitizer in powder form, improved the original product, and developed a system of dairy sanitation which gained wide acceptance throughout the U.S. and in foreign countries. Early promotion of this effective method of producing high quality milk was a matter of educating farmers, dairy plant operators, jobbers and suppliers in the use of chlorine sanitation. Much of this work was done personally by Mr. Crouse as well as through training programs for Pennsalt's nation-wide sales and service organizations.

During these years a complete line of dairy cleaners and sanitizers were introduced by Pennsalt's B-K Department under Mr. Crouse's leadership including B-K Powder, General Manual Kleaner, Penn-clean, BK-BK, Raydex, B-Kleer, and Pennsalt's newest liquid cleaner, BryKo.

For some years during his association with Pennsalt Mr. Crouse owned and operated a dairy farm in Montgomery County, Pennsylvania, where he was able to observe at first-hand the use of B-K products and cooperate with Company researchers in experimental work to improve the Pennsalt line of products.

Program 41st Annual Meeting — October 21 - 23

Hotel Morton, Atlantic City, N. J.

INTERNATIONAL ASSOCIATION MILK AND FOOD SANITARIANS, INC.

SPECIAL ACTIVITIES SCHEDULE

Time and place to be announced.

TUESDAY, OCTOBER 19, 1954

- 1:30—5:30 P.M. Meeting of Executive Board
7:00—11:00 P.M. Meeting of Executive Board

WEDNESDAY, OCTOBER 20, 1954

- 8:30—12:00 Noon Meeting of Executive Board
1:30—3:30 P.M. Meeting of Executive Board
7:00—11:00 P.M. Meeting of Executive Board
1:30—10:00 P.M. Registration Desk Open
1:30—5:30 P.M. Individual Committee Meetings
3:30—5:30 P.M. Executive Board and Journal Editors Meeting

THURSDAY, OCTOBER 21, 1954

- 7:30—9:30 P.M. Affiliate Council and Executive Board Meeting

FRIDAY, OCTOBER 22, 1954

Annual Banquet

OCTOBER 21, 1954 — THURSDAY MORNING

- Quarterdeck
John D. Faulkner, Chairman
- 8:00 a.m. Registration desk opens.
8:00 a.m. Movie—"Making the Most of a Miracle" courtesy of American Plant Food Council, Washington, D.C.
8:45 a.m. Door prizes presented by the various affiliates
9:00 a.m. Welcoming address—Dr. Daniel Bergsma, Sec'y. of Health, Trenton, N. J. Presented by?, Atlantic City, N.J.
9:15 a.m. President's address—John D. Faulkner, Washington, D. C.
9:45 a.m. Appointment of and charge to nominating committee
10:00 a.m. Report of the Sanitary Procedures Committee by C. A. Abele, Chairman

MILK SESSION PROGRAM

Quarterdeck
Presiding—David E. Monk, Milk Control Supervisor
Wichita, Kansas,
Sedgwick County Department of Public Health

- 10:30 a.m. The Coliform Problem in Fruit Ice Cream—Franklin Barber, Senior Scientist, Nat'l, Dairy Research Laboratory, Inc., Oakland, Long Island, N. Y.
11:00 a.m. Bacterial Problems: Psychrophilic-Thermophilic-Thermoduric William K. Mosely, Mosley Laboratory, Indianapolis, Indiana
11:30 c.m. Further Studies in the Sanitary and Economic Aspects of Bulk Milk Handling H. E. Calbert, Assoc. Prof. of Dairy Science, U. of Wisconsin, Madison, Wis.

FOOD SESSION PROGRAM

English Room

- Presiding—James A. Stalbird, Chief, Milk and Restaurant Section, N. Y. State Health Dept., Albany, N. Y.
- 10:30—11:10 a.m. The New Ohio State Food Service Operation Program—Ray Watts, State of Ohio, Department of Health, Columbus, Ohio.
11:00—11:10 a.m. Discussion
11:10—11:40 a.m. Food Additives under the Federal Law—Ralph Kneeland, Federal Food and Drug Adm., Washington, D. C.
11:40—11:50 a.m. Discussion
11:50—12:15 p.m. The Sanitarian in a Generalized City Program, P. W. Purdom, Director, Division of Environmental Sanitation, Dept. of Health, Philadelphia, Pa.
12:15—12:30 p.m. Discussion

OCTOBER 21, 1954 — THURSDAY AFTERNOON

BUSINESS MEETING, COMMITTEE REPORTS

- Presiding — John D. Faulkner
- 1:30 p.m. Door prizes presented by the various affiliates.
1:45 p.m. Business meeting and committee reports Education and Professional Development—Harold S. Adams
Milk Regulations and Ordinances—C. J. Babcock
Applied Laboratory Methods—Dr. C. K. Johns
Communicable Disease Affecting Man—Dr. R. J. Helvig
4:00—6:00 p.m. Committee Chairman and Executive Board get together
7:30—9:30 p.m. Affiliate Council and Executive Board

OCTOBER 22, 1954 — FRIDAY MORNING

- Quarterdeck
I. E. Parkin, Chairman
- 8:30 a.m. Door prizes presented by the various affiliates.
- 8:45 a.m. Report of Nominating Committee
- 9:00 a.m. Report of Dairy Farm Methods—Chester F. Bletch
- 9:15 a.m. The Need for Salesmanship instead of Policemanship—Ernest B. Kellogg, Secy. Milk Industry Foundation, Washington, D.C.
- 9:45 a.m. The Worth and Domain of Applied Sanitary Science—A Rationale and a Plea N. A. Milone, Resident Lecturer, School of Public Health, Ann Arbor, Michigan

MILK SESSION PROGRAM

- Quarterdeck
Presiding — ????
- 10:30 a.m. The National Status of Brucellosis—E. J. Perry, Prof. of Dairy Extension, Rutgers University, New Brunswick, New Jersey
- 11:00 a.m. Farm Water Supplies—A. W. Fletcher, Director of Environmental Sanitation, New Jersey Dept. of Health, Trenton, New Jersey
- 11:30 a.m. Dairy Waste Disposal—R. R. Kountz, Prof. of Sanitary Engineering, Pennsylvania State University, State College, Pennsylvania

FOOD SESSION PROGRAM

- English Room
Presiding—Harold B. Richie
Swift and Co., Chicago, Illinois
- 10:30—11:00 a.m. The New Poultry Sanitation Ordinance — Recommended to Industry Timothy Sullivan, Division of Food and Drugs, Indiana State Board of Health, Indianapolis, Indiana
- 11:00—11:10 a.m. Discussion
- 11:10—11:45 a.m. Relative Resistance of Meat Spoilage Bacteria to High Energy Radiations Dr. C. F. Niven, Jr., American Meat Institute Foundation, Chicago, Ill.
- 11:45—12:00 a.m. Discussion
- 12:00—12:30 p.m. Public Health Aspects of Shellfish, N. Y. State Conservation Dept., fish Control—Harold Udell, Bureau of Freeport, Long Island, N. Y.

Discussion

OCTOBER 22, 1954 — FRIDAY AFTERNOON

GENERAL AND BUSINESS SESSION

Presiding—John D. Faulkner

- 1:30 p.m. Movie — “An Outbreak of Salmonella” courtesy of U. S. Public Health Service, Washington, D. C.
- 2:00 p.m. Door prizes presented by the various affiliates.
- 2:15 p.m. Discussion of the National Conference of Interstate Milk Shipments—Richard Whitehead, Mississippi State Supervisor of Food and Milk Sanitation, State Health Board, Jackson, Mississippi
- 2:45 p.m. Business meeting and Committee reports Food Equipment—John H. Fritz
Frozen Food Sanitation—Dr. V. C. Stebnitz
Membership—Hugh T. Templeton
- 4:00 p.m. Movie “Mastitis” Courtesy of Cornell University, Veterinary College

FRIDAY EVENING

Annual Banquet

Address “Greatest Yet” by J. Roger Deas, Public Relations Manager, American Can Company, New York, New York
Presentation of the Citation Award and Presentation of the Sanitarians Award by H. J. Barnum, Chairman Recognition and Awards Committee

OCTOBER 23, 1954 — SATURDAY MORNING

Quarterdeck

Ivan Van Nortwick, Chairman

- 8:30 a.m. Movie “500,000 to 1” courtesy of Sinclair Refining Co., 600 5th Ave., New York, N. Y.
- 9:00 a.m. Door prizes presented by the various affiliates.
- 9:15 a.m. Report of Recognition and Awards Committee by Harold J. Barnum
- 9:30 a.m. Future Trends of the Milk and Food Industry—A. L. Wentworth, The Borden Co., New York City, N.Y.
- 10:00 a.m. Report of Resolutions Committee by Dr. K. G. Weckel

MILK SESSION PROGRAM

Quarterdeck

Presiding—?????

- 10:30 a.m.—12:00 Noon Pipe line Milk-ing Panel—H. J. Barnum, Moderator—Panel Participants: Paul Corash, N. Y. City Dept. of Health; George Watrous, Penna. State University; George Rue, Allentown, N. J.; Tom Medford, Westgrove, Pa.; Wm. R. Cook, East Longmeadow, Mass.; Richard S. Guthrie, De Kalb, Illinois; A. F. Gallistel, Minneapolis, Minnesota

FOOD SESSION PROGRAM

English Room

Presiding—Jerome Trichter, Assistant Commissioner
New York City Health Department

- 10:30—11:30 a.m. A New Look at Mechanical

Dishwashing—a panel discussion

1. Dishwashing machines — Performance standards, testing and field observation — Jack McAllister, Nat'l. Sanitation Foundation, Ann Arbor, Michigan
2. Dishwashing machine fabrication and operation from the manufacturer's viewpoint—J. B. Fox, The Hobart Mfg. Co., Troy, Ohio
3. Getting the most from detergents in mechanical dishwashing — Dr. Elwyn Mendenhall, Avril Chemical Co., Reading, Pa.

11:30—11:45 a.m. Discussion

- 11:45 a.m.—12:15 p.m. Showing of new USPHS film releases on food sanitation
1. Kitchen habits, color and sound (12 minutes)
 2. Food preparation, color and sound (13 minutes)
- Comments

OCTOBER 23, 1954 — SATURDAY AFTERNOON

Presiding—Harold S. Adams

GENERAL AND BUSINESS SESSION

- 1:30 p.m. Door prizes presented by the various affiliates
- 1:45 p.m. Public Attitudes — Norman Myrick, Editor of the American Milk Review, New York, N. Y.
- 2:15 p.m. Bulk Milk Dispensers—Walter D. Tiedman, Exec. Director, Nat'l. Sanitation Foundation Testing Laboratory, Inc., Ann Arbor, Michigan
- 2:45 p.m. Business meeting, President John D. Faulkner
Election of Officers
Installation of Officers
Executive Board Meeting

IF MEN ARE FOR A LONG TIME ACCUSTOMED ONLY TO ONE SORT OR METHOD OF THOUGHTS, THEIR MINDS GROW STIFF IN IT, AND DO NOT READILY TURN TO ANOTHER . . .

John Locke (1632-1704)

DAIRY INDUSTRIES EXPOSITION

ATLANTIC CITY, N. J.

OCTOBER 25-30, 1954

For detailed leaflet on Exposition, write Dairy Industries Supply Association, 1108 16th Street, N.W., Washington 6, D. C. For hotel reservations, write Atlantic City Housing Bureau, Central Pier, Atlantic City, N. J.

SOME DEVELOPMENTS IN THE WORK OF THE FOOD LAW INSTITUTE

The Food Law Institute, of which the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC., is a Public Member, reports that Dean David E. Snodgrass, University of California, is organizing a strong evening course on the food and drug law in San Francisco for next year. Mr. Oliver Field, Director of the Bureau of Investigation of the American Medical Association has become an additional member of the Lawyers Advisory Committee, the other public members being the Director of the AMA Bureau of Legal Medicine and Legislation, the Chief Counsel for the U. S. Food and Drug Administration,

and the Chief Counsel for the Canadian Department of National Health and Welfare.

The president of the Institute, Mr. Charles Wesley Dunn will accompany Food and Drug Commissioner Crawford and Surgeon General Scheele in representing the United States at an official food and drug law meeting in Ottawa next year (to be reported).

One of the graduate fellows of the New York University program of food and drug instruction is now the food and drug law attorney of the U. S. Department of Justice dealing with the enforcement of the major Federal Food, Drug, and Cosmetic Act. Several additional graduate fellows have been appointed to the law division of the U. S. Food and Drug Administration which administers this Act.

"DOCTOR JONES" SAYS:*

BY PAUL B. BROOKS, M. D.

"Music hath charms to soothe the savage breast, To soften rocks, or bend the knotted oak . . ." Those lines—they've been stamped on my memory from way back in my schoolday "rhetoric" course. I never knew, 'til I just looked it up, who wrote 'em. If you're interested—
Continued on Page 298

CLASSIFIED ADVERTISEMENT
Milk Sanitarian Position Wanted

Milk and Food Sanitarian, B.S. in Dairy Manufacturing, 7 years commercial dairy plant experience and 10 years Public Health Milk Sanitation experience in a policy forming supervisory capacity for a large City—County Health Department.

Desires position as Chief Sanitarian of Milk and Food Division. Excellent references. Prefer Midwest location.

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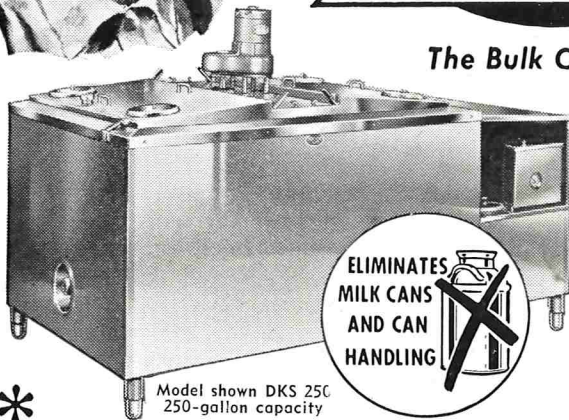
"Leads them all!"



DARI-KOOL

BULK MILK COOLERS

The Bulk Cooler that's 10 Years Ahead!



Model shown DKS 25C
250-gallon capacity

Milk is rapidly cooled to well below 40°, assuring a low bacteria count and better milk. Because the coolant is ice-water — the milk cannot freeze.

Dari-Kool tanks are easy to clean and may be sanitized with hot water without damage.

Units are ready to plug in. Nothing else to buy or install.

In a wide variety of sizes from 100- to 700-gallon capacities.



- LEADS IN SALES** — In Wisconsin — America's leading dairy state — more Dari-Kools are in use than all other coolers combined.
- LEADS IN VALUE** — Dari-Kool costs less to buy — less to maintain and operate. All stainless steel construction inside and out.
- LEADS IN PERFORMANCE** — Dari-Kool has a larger cooling surface than any other cooler—and does the cooling job faster for less money

Dari-Kool Meets all 3-A Sanitary and Cooling Standards



Write Dept. 73 for complete information

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OAKITE BACTERICIDE

One Of The Fastest Bactericidal Agents Available

Short time between milk runs calls for a sanitizer that gives maximum kill in minimum time. Oakite Bactericide, because of its low pH, goes to work almost instantly. Tests show that killing action begins within 5 seconds after application.

Oakite Bactericide is thorough, mixes readily in cold water and leaves no white deposits on surfaces. Write for more information and ask about our new Hozon applicator furnished FREE to Bactericide users. Oakite Products, Inc., 38C Rector Street, New York 6, N. Y.

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"DOCTOR JONES" SAYS:

Continued from Page 297

ed: an English dramatist, William Congreve, in the early seventeen hundreds. Anyway, there was as much truth as poetry in 'em—at least the "savage breast" part of it. I thought of it when I read editorials, in a couple of my medical journals, about the use of music in medicine.

In World War II, it seems, they were using music (as part of the treatment) in army hospitals. In 1944 Michigan State College set up a four-year course leading to a Bachelor's degree. The Wayne County Hospital, in Michigan, established an internship in music therapy. Four years ago a National Association of Music Therapy was founded. Its purpose is developing music therapy as a profession.

Different medical observers have reported that music helps in the care of a lot of different kinds of patients. Naturally it has to be the right kind of music. With acutely ill patients, one said, it often had a sedative and cheering effect. In patients with chronic ailments — tuberculosis, tumors, nervous diseases and so on — it helps to pass the time and, as it says here, "removes flights of the imagination to more pleasant and relaxing spheres of thought."

It's been used in baby cases to lessen the anxiety and pain of women in tedious labor. Some dentists use it during dental work on nervous patients. In operating rooms it's had a calming effect on patients taking anesthetics. In physical therapy rhythmical music makes exercises more interesting. Playing the piano and other instruments helps to limber up stiff joints. "All?" No—but all you've got room for.

Yes, I even read somewhere they'd found that playing records of soft music in the cowbarn make cows give more milk. Probably the relaxing effect. The cow that "jumped over the moon" — that, maybe, was jazz tunes.

^oFrom *Health News*, New York State Department of Health.

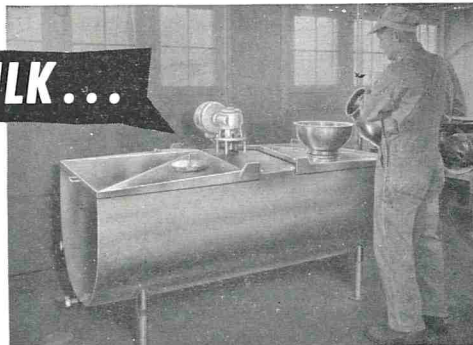
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As a result, Mojonnier Bulk Coolers produce quality bulk milk at the lowest possible operating cost.

All stainless steel Mojonnier Bulk Coolers with round bottom design insure calibration stability plus easy cleaning.



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RESERVATIONS

41ST ANNUAL MEETING—INTERNATIONAL ASSOCIATION MILK AND FOOD SANITARIANS, INC.

HOTEL MORTON*

150 South Virginia Avenue,

Atlantic City, New Jersey

The 1954 Annual Meeting of the International Association of Milk and Food Sanitarians, Inc. is meeting in Atlantic City October 20th to 23rd, with Headquarters and all meetings in Hotel Morton.

I am planning on attending. Please reserve for me the accommodations as checked:—

Front, double room
(2 persons) room with bath 12.00 per day European Plan
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I will arrive Will depart

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ADDRESS

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This reservation will be acknowledged.

3% city tax on all rooms.

Table D'Hote — meals will be served

Breakfast \$1.00

Lunch 1.00

Dinner \$2.00

Banquet on Friday, October 23rd 3.50

*Send all reservations direct to Hotel Morton.

FOUR FREE TECHNICAL BULLETINS

***Containing Latest Data on
Dairy Sanitation & Maintenance***



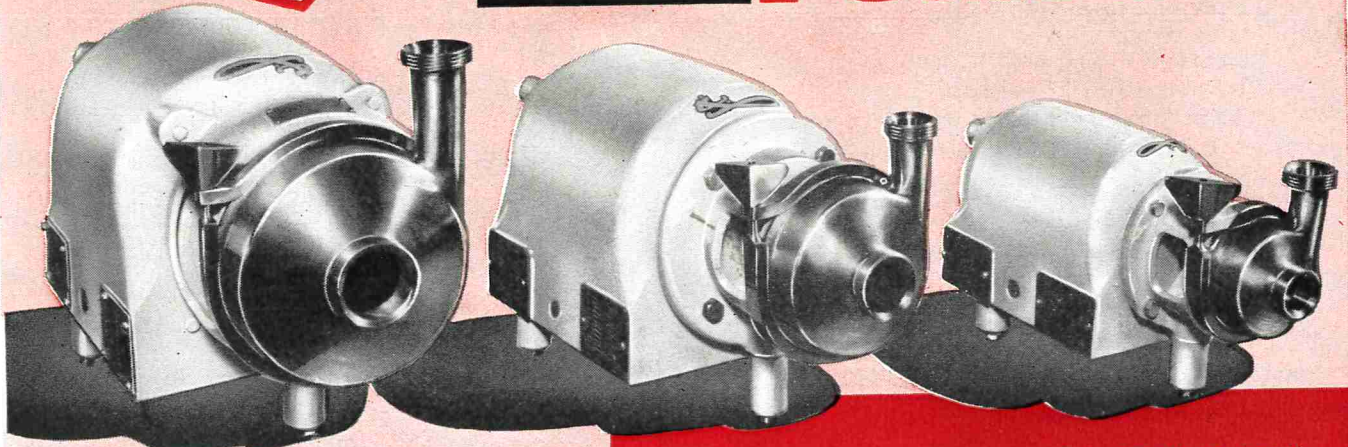
1. Pipeline Milkers—Better Cleaning Methods
2. Bulk Milk Tanks—Practical Farm Sanitation
3. Modern Dairy Plant Sanitation
4. In-Place Lines—Efficient Cleaning

To get your free copies, just send your name and address and the names of the bulletins you wish. Write: B-K Dept., Pennsylvania Salt Manufacturing Co., 662 Widener Bldg., Philadelphia 7, Pa.



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(Patent Pending)

SANITARY CENTRIFUGAL PUMPS



Creamery Package now presents a new line of centrifugal pumps especially engineered to give you better pump performance—with least maintenance—through longer pump life.

Offered in a complete range of sizes, speeds and models, these pumps make it easier than ever to *match the pump to the job* in the handling of dairy and liquid food products of medium to light viscosities.

They eliminate wasted power, while insuring top performance and efficiency. Because the same pumps can be used for both pumping product and clean-up solutions, they are ideal for in-place cleaning of permanent lines.

CP Stainless Steel Sanitary Pumps can be completely disassembled and reassembled *without tools*. There are no unwieldy or difficult-to-hold-in-place parts. All product contact surfaces are of stainless steel for durability and highest sanitation.

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ATLANTIC CITY - OCT. 25 - 30

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New CP Stainless Steel Sanitary Pumps are the achievement of more than 50 years of experience in the successful processing and conveying of liquids in dairy, food and many other fields. From this experience come the improved features that make these pumps the masters of any pumping job for which they are recommended...the best pumps you can buy for your jobs!

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MILK FROM
CAPPING
TIME TO
CONSUMING
TIME**



● Most bottle caps protect milk sufficiently from dairy to doorstep. But for safeguarding milk both before and after delivery, none can match the "last drop" protection assured by Seal-Hood and Seal-Kap closures (disc and cap in one compact, easy-to-open unit).

No metal to fight with...no annoying prying or special tool is needed to open a Seal-Kap or Seal-Hood closure. Both open easily...yet snap back on tightly every time the milk is used. This means sure sanitary protection—right down to the last drop of milk in the bottle.

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NEW CLEANING
METHOD FOR HIGH
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O-R SYSTEM OF CLEANING

**SAVES YOU HUNDREDS OF DOLLARS ANNUALLY
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Again Klenzade leads with a remarkable new cleaning chemistry advance — *Chelation*. Initial cleaning with Klenzade O-R Organic Acid Cleaner is followed with Klenzade O-R Alkaline Cleaner. This produces an amazing series of chemical reactions — each one super-powered for a variety of specific *cleaning actions* never even approached before. The milkstone dissolving properties of the organic acid cleaner are complemented and enhanced by the soil dissolving properties of the alkaline cleaner, resulting in *double action* cleaning through chemical fortification. "Chelation" prevents precipitation of water-borne minerals and assures film free surfaces. Let us demonstrate to you that this revolutionary chemical cleaning advance — the Klenzade O-R System — will definitely save you hundreds of dollars annually.

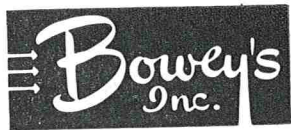
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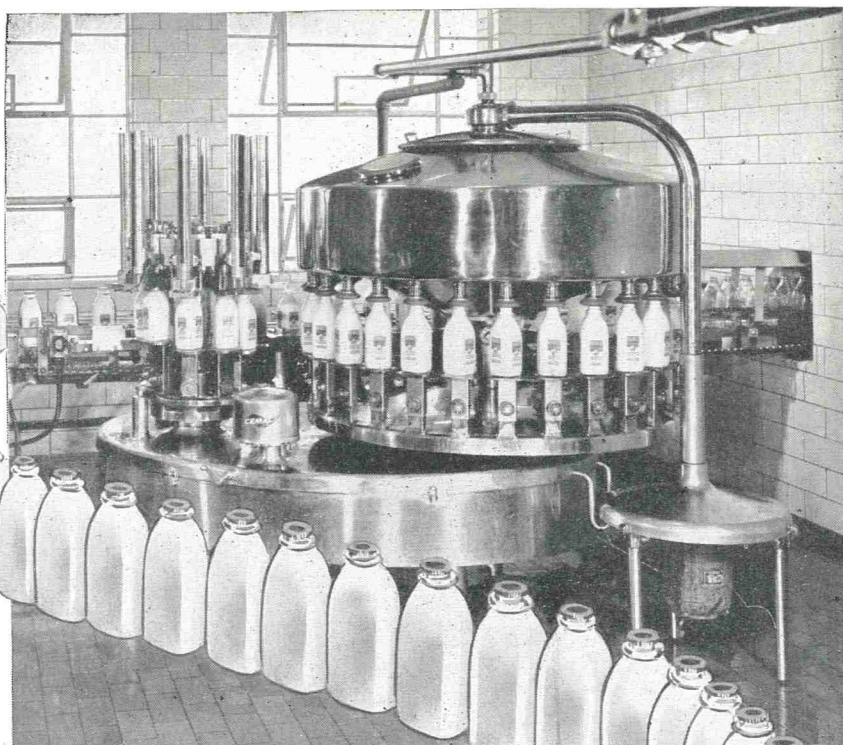
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DONE...AND FOR YOUR
CONTINUING EFFORTS TO
KEEP QUALITY FIRST!**

In our business, sanitation is a most vital aspect of quality. While we as manufacturers undertake the necessary research and inspection to keep DARI-RICH at the top in quality . . . it is your important function to *maintain* such standards in the field.

And these efforts over the years have greatly increased the quality of dairy products, including the nationally-famous DARI-RICH Chocolate Flavored Milk and Drink. For your help, we thank you—and endorse your constant vigilance to protect the health of our nation.



There's nothing like it for *SPEED!*



Cemac has speed that no other fillers can match . . . regardless of what products are being run.

And with faster operation at the filler, there's more pep in your entire operation. You get your money's worth from all of your equipment. Costs are lower. Time is saved. And your profits take a nice step upward.

Ask your Crown Representative to *prove* that Cemac can give you the finest filling you've ever had. And, remember, Cemac in combination with the P-38 Dacro Cap gives you the finest operation of all.



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How close does your filler come to these average CEMAC speeds?

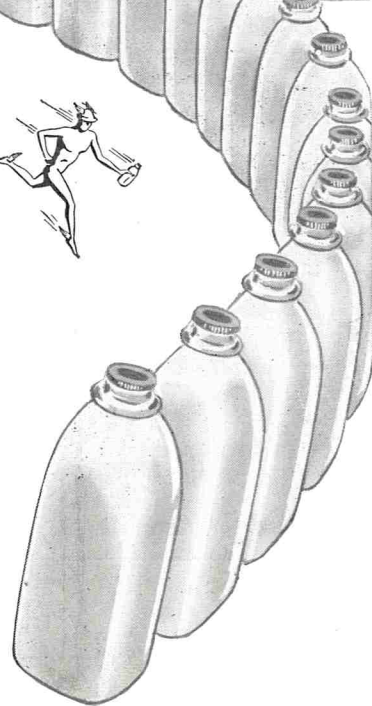
CREAM LINE MILK	135 BPM
HOMOGENIZED MILK	130 BPM
CHOCOLATE MILK	125 BPM
20% CREAM	120 BPM

NOTE: These are rated capacities for Cemac 28 . . . but they are exceeded in dairies from coast to coast, throughout the daily run.

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Built in 3 sizes:

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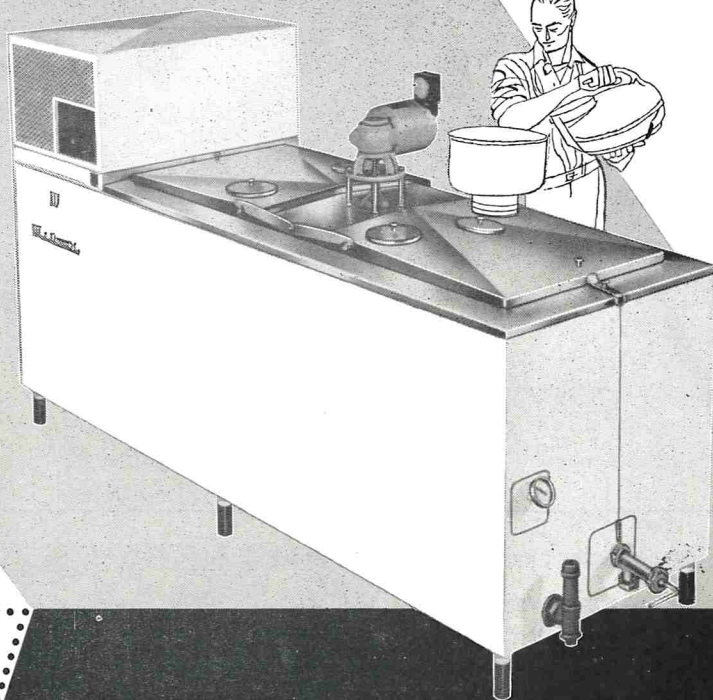


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provide fast, dependable, low cost cooling on
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Exclusive features save you money, prevent
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Wilson Bulk Milk Cool-
ers are available in
five sizes; 75, 150,
250, 360 and
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Ask the WILSON man for
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Smyrna, Delaware**

Rush information on Wilson Bulk Milk Cool-
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ADDRESS _____

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DIVISION OF TYLER REFRIGERATION CORPORATION

SMYRNA, DELAWARE

**Wilson has made over 100,000 farm refrigeration installations!*

Dear IAMFS Member:

5 Minutes, Please?

- 1 Minute to think of the names of a few people who should be members of IAMFS.
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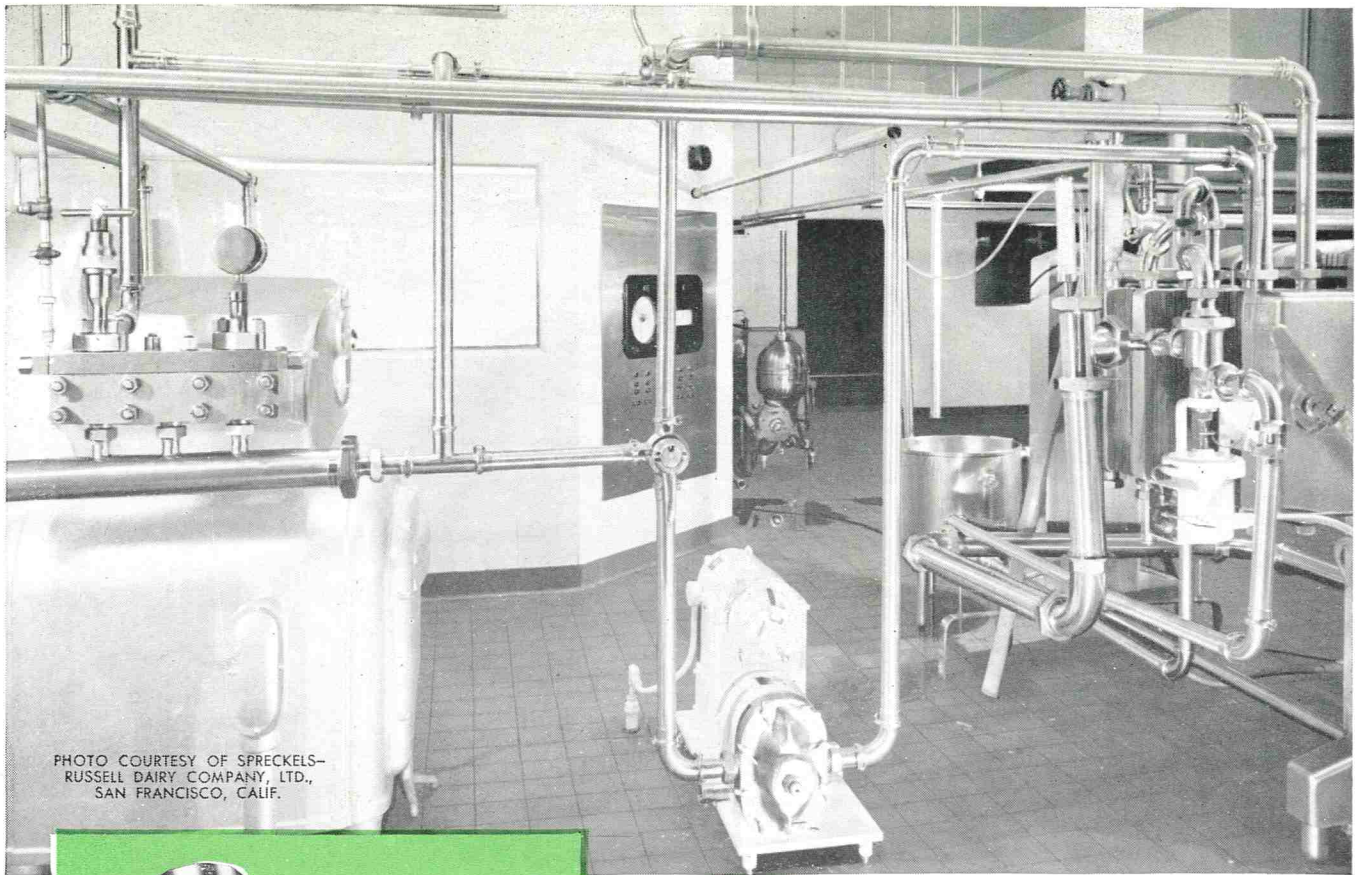


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