

FEBRUARY, 1963

Vol. 26

No. 2

Journal of

MILK and FOOD TECHNOLOGY

50th ANNUAL MEETING

OCTOBER 22, 23, 24, 25, 1963

Royal York Hotel

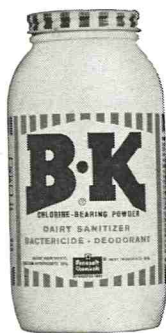
Toronto, Ontario, Canada

Official Publication

International Association of Milk and Food Sanitarians, Inc.



Protect natural milk flavor



Use improved B-K POWDER—the dairy sanitizer that helps you guard milk quality and flavor. It *controls* bacteria that may cause off-flavor or odors. Used as directed, it imparts no odor or flavor to milk.

B-K POWDER helps control mastitis, too. Regular use of a fresh, mild chlorine solution is recommended to help keep udders, teats and teat cups sanitary.

Depend on B-K POWDER—in the unbreakable plastic container, with a free measuring spoon to help you avoid waste. Call your B-K distributor or write direct.

B-K Department
PENNSALT CHEMICALS CORPORATION
3 Penn Center, Philadelphia 2, Pa.



The International Association of Milk and Food Sanitarians

PRESENTS

THE CHARTER ENROLLMENT PERIOD

OF THE

OFFICIALLY ENDORSED AND SPONSORED

GROUP INCOME REPLACEMENT INSURANCE PLANS

A NEW AND ADDED MEMBERSHIP BENEFIT

Providing

Weekly Income Benefits in the event of your total disability resulting from accident or illness. Plan I benefits payable from 1st day of accident, 8th day of illness or 1st day of hospitalization, whichever earliest. Plan II accident and illness benefits begin with 31st day of total disability.

Partial Disability Benefits in the event you are not totally disabled as a result of an accident but unable to perform all of your normal duties.

Non-disabling Accident Expense Benefits if you incur medical expenses for a non-disabling injury.

Accidental Death, Dismemberment and Loss of Sight Indemnity if such loss is the result of an accident.

WITH BROAD ALLIED PROVISIONS AT LOW GROUP RATES

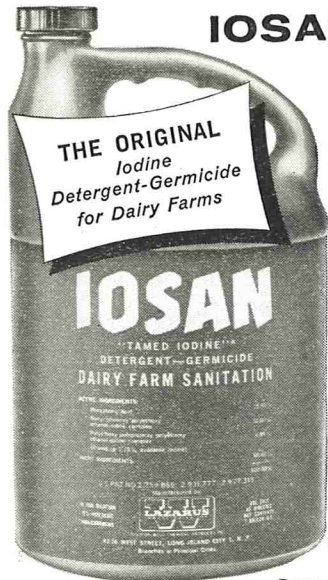
Please Note:

In order to qualify this program we must receive applications from at least 50% of the membership under the age of 70 by 11 May 1963, the end of the charter enrollment period. *If this goal is attained, coverage will be granted all applicants regardless of past medical history.*

Help Us To Help You — submit your application without delay to our group insurance program administrators:

The Association Service Office
International Association of Milk and Food Sanitarians Inc.
1500 Walnut Street — Philadelphia 2, Pa.

Underwritten by Educators Mutual Life Insurance Co., Lancaster, Pennsylvania



IOSAN® DOES ALL

4 DAIRY JOBS

- Cleans } bulk tanks and all equipment thoroughly
- Sanitizes }
- Removes and prevents milkstone build-up
- Helps control mastitis

LAZARUS
LABORATORIES INC.

Division, West Chemical Products, Inc.,
42-16 West St., Long Island City 1, N. Y.

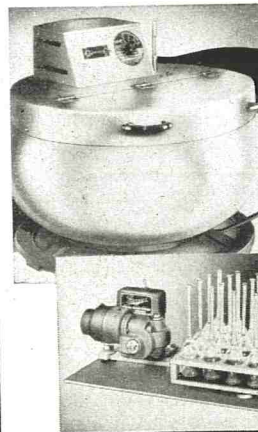
ALSO MAKERS OF

Dyne, Iobac, Pipeline Powdr Plus, Super Powdr Plus, Foamchek, and Foamchek-100

Classified Ad

FOR SALE

Single service milk sample tubes. For further information and a catalogue please write, Dairy Technology, Inc., P. O. Box 101, Eugene, Oregon.



Consistently Accurate!

GARVER Milk & Cream Testing Equipment

Faulty testing equipment can turn profit into loss—fast. Insure now against inaccuracy with this efficient Garver combination.

1. Garver "Super" Babcock Tester. Speed controlled and speed indicated for extreme accuracy.
2. Garver "ovate action" Test Bottle Shaker. Thoroughly integrates test ingredients—saves time—eliminates dangerous, haphazard hand twirling.

Write today for catalog.

THE GARVER MANUFACTURING CO.
Dept. JM, Union City, Ind.

"Babcock Tester Manufacturers for Four Decades"



New RAPID DISK METHOD

for Detection of

PENICILLIN in MILK

Reliable

Sensitive

Practical

Direct assay method of Arret and Kirshbaum (FDA) for determining presence of penicillin in milk and dairy products.

<i>Media</i>	BACTO — ANTIBIOTIC MEDIUM I BACTO — SPORULATING AGAR
<i>Inoculum</i>	BACILLUS SUBTILIS ATCC 6633 Standardized Spore Suspension in 1 ml. ampuls
<i>Penicillinase</i>	BACTO — PENASE CONCENTRATE in 20 ml. and 100 ml. vials BACTO — PENASE DISKS Standardized Impregnated Disks
<i>Penicillin</i>	STANDARDIZED IMPREGNATED DISKS 0.05 units, 0.1 unit and other concentrations

INFORMATION ON REQUEST

DIFCO LABORATORIES
DETROIT 1 MICHIGAN USA

OFFICERS

President, RAY A. BELKNAP, Chicago, Illinois
President-Elect, JOHN H. FRITZ, Washington, D. C.
First Vice-President, WALLACE C. LAWTON, Minneapolis, Minn.
Second Vice-President, FRED E. UETZ, Englewood, N. J.
Secretary-Treasurer, KARL K. JONES, Indianapolis, Ind.

Executive Board

JOHN J. SHEURING
 CHARLES E. WALTON
 RAY A. BELKNAP
 JOHN H. FRITZ
 WALLACE C. LAWTON
 KARL K. JONES
 FRED E. UETZ

Publication Board

DR. J. C. OLSON, JR. H. L. THOMASSON
 KARL K. JONES

Editors

DR. J. C. OLSON, JR., *Associate Editor*, Dept. Dairy Industries, University of Minn., St. Paul 1, Minn.
 H. L. THOMASSON, *Executive Secretary and Managing Editor*, Box 437, Shelbyville, Indiana.
 JOHN D. SIMPKINS, *Assistant Executive Secretary and Assistant Managing Editor*, Box 437, Shelbyville, Ind.

Associate Editors

C. A. ABELE.....Chicago, Illinois
 H. S. ADAMS.....Indianapolis, Indiana
 M. P. BAKER.....Ames, Iowa
 F. W. BARBER.....New York, New York
 F. C. BASELT.....New York, New York
 L. A. BLACK.....Cincinnati, Ohio
 J. C. FLAKE.....Chicago, Illinois
 L. G. HARMON.....East Lansing, Mich.
 E. K. HARRIS.....Cincinnati, Ohio
 R. P. HAYWARD.....Bowie, Md.
 C. A. HUNTER.....Topeka, Kansas
 C. K. JOHNS.....Ottawa, Ontario, Canada
 O. W. KAUFMANN.....East Lansing, Mich.
 W. C. LAWTON.....St. Paul, Minnesota
 W. S. MUELLER.....Amherst, Mass.
 K. G. WECKEL.....Madison, Wisconsin
 J. C. WHITE.....Ithaca, New York

The Journal of Milk and Food Technology is issued monthly beginning with the January number. Each volume comprises 12 numbers. Published by the International Association of Milk and Food Sanitarians, Inc., with executive offices of the Association, Blue Ridge Rd., P. O. Box 437, Shelbyville, Ind.

Entered as second class matter at the Post Office at Shelbyville, Ind., March 1952, under the Act on March 3, 1879.

EDITORIAL OFFICES: J. C. Olson, Jr., Associate Editor, Dept. Dairy Industries, University of Minn., St. Paul, Minn.; H. L. Thomasson, Managing Editor, P. O. Box 437 Shelbyville, Ind.

Manuscripts: Correspondence regarding manuscripts and other reading material should be addressed to J. C. Olson, Jr., Associate Editor, Dept. Dairy Industries, University of Minn., St. Paul, Minn.

"Instruction to Contributors" can be obtained from the editor for the use of contributors of papers.

Journal of

MILK and FOOD TECHNOLOGY

Official Publication

International Association of Milk and Food Sanitarians, Inc.

REG. U. S. PAT. OFF.

Vol. 26

February, 1963

No. 2

Editorial:

Screening Tests and Mastitis Control <i>Dr. D. Levowitz</i>	37
Guiding Principles That Formulate Public Relations Theory <i>Malcolm P. Grover</i>	38
Cottage Cheese Problems In Production And Sanitation- The Curd-O-Matic System Of Production, Its Purpose And Function <i>W. F. Mueller</i>	42
Training Opportunities For The Sanitarian- Specialized In-Service Training <i>R. F. Clapp</i>	43
Rapid Detection Of Faecal Coliform Bacteria In The Food Processing Plant <i>J. Orvin Mundt and B. N. Rai</i>	46
Progress Report Of The National Labeling Committee <i>M. W. Jefferson</i>	50
Report Of The 3-A Sanitary Standards Symbol Administrative Council	51
International Association of Milk and Food Sanitarians Committee Reports	52
International Association of Milk and Food Sanitarians 1963 Committees	55
Special Features:	
Our Heritage—50 Years In Retrospect First Decade— <i>C. A. Abele</i>	59
International Association of Milk and Food Sanitarians Insurance Plan	61
News and Events	62
Events In March	68
Index To Advertisers	71
Classified Ad	II

Business Matters: Correspondence regarding business matters, advertising, subscriptions, orders for single copies, etc., should be addressed to H. L. Thomasson (address above).

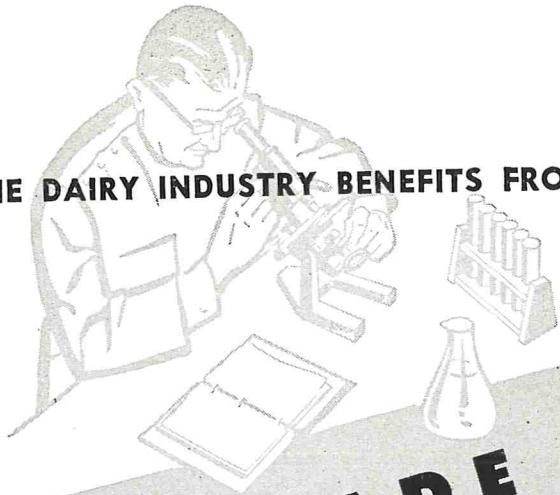
Subscription Rates: One volume per year, Individual non-members, Governmental and Commercial Organization subscription,
 1 yr. \$8.00
 Public and Educational Institution
 Libraries, 1 yr. \$6.00
 Single Copies \$1.00

Orders for Reprints: All orders for reprints

should be sent to the executive officer of the Association, P. O. Box 437, Shelbyville, Ind.

Membership Dues: Membership in the International Association of Milk and Food Sanitarians, Inc., is \$7.00 per year, which includes annual subscription to the Journal of Milk and Food Technology. All correspondence regarding membership, remittances for dues, failure to receive copies of the Journal, changes of address, and other such matters should be addressed to the Executive Secretary of the Association, H. L. Thomasson, Box 437, Shelbyville, Indiana.

HOW THE DAIRY INDUSTRY BENEFITS FROM



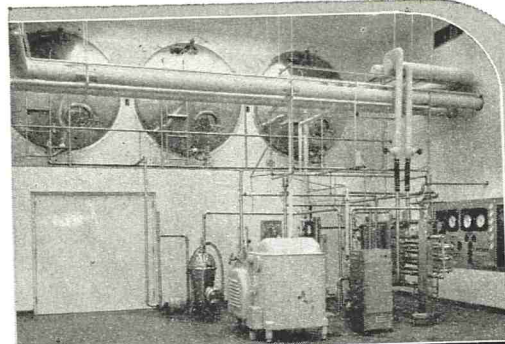
KLENZADE Advanced Technology



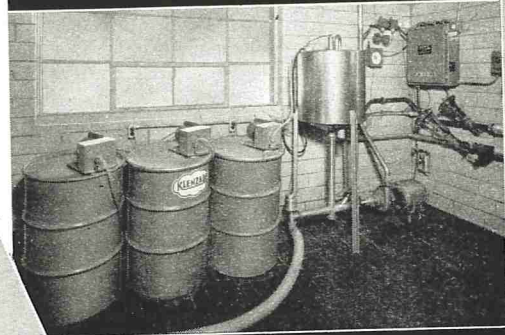
Almost every day something new happens at Klenzade . . . to advance dairy sanitation. New and better ways to do old jobs . . . and to trim costs. Klenzade continuing research keeps YOU ahead.

KLENZADE PRODUCTS, Dept. 21 B, BELOIT, WIS.

Trained Technical Sales Personnel Throughout America



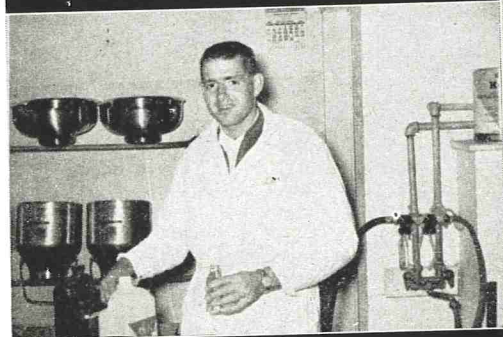
AUTOMATION ENGINEERING • EQUIPMENT



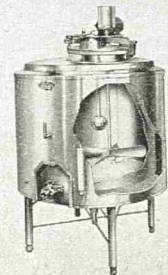
NEW TYPE LIQUID DETERGENTS



LIQUID DETERGENT TANK DELIVERY



FARM & PLANT PROGRAMS • FIELD SERVICES



CULTURES • UTENSILS • EQUIPMENT

SCREENING TESTS AND MASTITIS CONTROL

"Mastitis," literally translated, is "an inflammation of the mammary gland." Mastitis is a general term, and is applicable to any swelling in the udder tissue, large or small, due to injury or infection. The secreting cells in the inflamed area lose their function; they no longer transform blood serum into milk, but permit it to pass through unchanged. The composition of the normal secretion is altered in direct proportion to the volume of blood serum which enters. pH, chlorides, catalase and leucocyte levels are raised; lactose is lowered; their concentrations are the bases of "indirect" screening tests for mastitis.

Because the leucocyte levels of milks from normal healthy cattle (and from their individual quarters) vary from thousands to hundreds of thousands and back in successive milkings, the "body cell count" has been considered less reliable than the other "indirect" screening tests for mastitis, based on blood serum components. The "indirect" tests, as a group, are best suited for use on samples from individual quarters, since the deviations from the mean, particularly where only a small portion of a gland is mastitic, are very slight, and easily lost by dilution.

The current variants of the Whiteside Test are simple to perform. Their reactions broadly reflect the sample's "body cell count," and in those where indicator is formulated into the reagent, its pH as well. The Whiteside variants are thus, modified "indirect" tests for mastitis, best suited for use on samples from individual quarters.

There is no doubt that herd milks which achieve "strong positive" reactions by Whiteside variants, or other indirect tests, contain a substantial volume of blood serum from afflicted quarters. Since the volume of serum is a function of the amount of inflamed tissue involved, the actual number of afflicted quarters can be determined only by testing all of them, individually. Regulatory agencies which require herd milks to be tested periodically by "indirect" screening methods demand, understandably, that the individual quarters of all animals in herds which exhibit "strong positive" reactions be tested too.

Weaker "positive" reactions attest to a lesser percentage of blood serum in the herd milk; "negative" reactions on herd milk samples do not necessarily mean that blood serum is absent—there may be too little to be discerned by the screening test used. Mastitis incidence in herd milks can not be determined when "indirect" methods are employed, unless ALL individual quarters are also tested! When this is not done, "indirect" screening programs do not retard the acceptance of mastitic milk. As one farmer put it: "as long as they take it, why shouldn't I ship it?"

To positively establish the presence of infection requires a "direct" screening method, wherein the causative organisms are recovered. This is easily done. A large number of groups of these bacteria, enmeshed in clusters of large mononucleated phagocytes, is swept into the secretion by blood serum flowing through each infected alveolus. With only one infected animal in the herd, some of these groups are to be found in a strained smear of the milk, and can be located readily by employing the low power objective. By centering a group and examining it with oil immersion magnification, whether or not it satisfies the criteria for mastitis is learned immediately. The absence of characteristic groups is positive evidence that the herd does not harbor an animal whose udder is infected.

The "direct" screening test for mastitis entails much less labor than properly determining the bacterial count of a market milk by microscopic method. Its presenting the classic portrait of infection, when it is located in a sample, stimulates milkers to know their cattle, and to practice the good management essential to maintain each animal's resistance at its maximum. This is essential, if mastitis is to be limited, since not only microorganisms introduced, but normally innocuous bacteria, native to the udder, begin to grow rapidly—resulting in inflammation, as soon as resistance falls. Injuries, untreated, are followed by infection.

Dairy farmers, like other businessmen, will do their best to meet fair, finite and consistent specifications. Farmers, more than most businessmen, are proud of achieving good records. Mastitis can be limited to only random flare-ups, if infection-free milk is demanded, the demand adhered to (in "short" as well as "flush" season) and implemented by the use of a tool capable of doing the job—the "direct" screening test.

DR. D. LEVOWITZ, *Director*
New Jersey Dairy Laboratories
New Brunswick, N. J.

GUIDING PRINCIPLES THAT FORMULATE PUBLIC RELATIONS THEORY¹

MALCOLM P. GROVER

Safeway Stores, Inc., Oakland, California

Public relations theory is the foundation for relations practices which management uses to accrue maximum benefits to all functions of the organization. Through a knowledgeable study of all facts concerning a given situation, a plan can be developed to achieve the end result of good relations. The problem of relations with the many publics in the everyday workings of a sanitarian or sanitation organization cannot be met or dismissed by a press release or speech.

To develop a sound public relations program, the principles of theory must be considered. This paper has discussed three major principles. These are (a) consideration of fundamental matters, (b) organization involvement in decisions, and (c) evaluating the public interest. If these points are balanced with the actions of an organization, as a philosophy of management, the results will bring about the most favorable relations possible.

Addressing remarks on the assigned subject of "Public Relations in Theory" presupposes the decision that public relations is a desirable activity for the food sanitarian. A review of the daily problems encountered by those in the profession would make this self-evident. No argument need be made for the activity in any organization. As the symposium will also concern itself with public relations practice in industry and public health, no attempt will be made to outline action programs. However, it is necessary to define the term "public relations" in the context of this paper.

Many definitions will have as their basis the old and simple phrase "to build good will". That definition falls short for those faced with everyday decisions involving vital questions affecting large numbers of people. Reactions to a decision will be as varied as the interests of the groups concerned. As an example, an announcement of changing hours for the local high school would be received with varied reactions. The bus company would have to realign use of equipment to handle student loads. The drivers might threaten to strike because of the change in existing schedules. Employers of after-school students would have to reschedule work hours. Parents would

welcome or resent the announcement, based upon their own interests.

In this simple illustration involving individuals as parents, as bus drivers, or as employers, a common interest may bring about the formation of a committee. Large groups such as unions, chambers of commerce, political parties, civic clubs and many more, are examples of individuals banding together for the promotion of a common interest. Every individual falls into several different interest-group categories—as a parent, a businessman, a professional or laboring man, as a Democrat or a Republican, etc.

In order to provide orderly, planned methods of approach for public relations purposes, such groups are referred to as publics. Hence, the public relations policies of a successful organization will be directed toward the special interests of one or more publics. A well-rounded public relations program of a corporation is directed to its various publics, i.e., employees, stockholders, customers, financiers, government agencies, and many others. All publics do not have the same interest in the corporation; therefore, the communications of its activities may and should be varied—each tailored in relation to the particular public's interest.

One broad stroke of the pen, one press release, or one speech does not serve to communicate with the many publics interested in an organization's activities. Public relations activities in the use of publicity, speeches, promotions, campaigns, research, etc., must be carefully designed in order to reach specific publics and reach them effectively.

To present properly the policies and activities of an organization, public relations must be an over-all activity. It is not a specialized activity as is production, engineering, finance, or sales. It is an operating philosophy which management must seek to apply in everything that it does and says. It is a philosophy of doing things. It is the very essence of any organization.

Public relations is about nine-tenths doing and one-tenth talking, though its philosophy is made up of many ingredients—sociology, economics, psychology, communications, as well as other knowledges. All of these combine to form a system of human under-

¹Presented as part of a Symposium on Public Relations at the 49th Annual Meeting of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC., at Philadelphia, Pennsylvania, October 24-27, 1962.

standing. Although men have created many sciences which enable them to accomplish many great achievements, they have not yet found the catalyst that will fuse these knowledges into a science of human relations. This makes the creation of a simple handbook on how to solve the problems of public relations a virtual impossibility.

The inability to find such a catalyst can be ascribed to the individual's reaction, which has often been described as "rational irrationality." People react to any given situation through their own eyes, in their own interests, based upon their own experiences. Therefore, any general public opinion is only the composite of what the particular public sees. To achieve full unity of public opinion upon any given matter would be a Herculean task, if not an impossibility.

It is the variety of individual reactions to organization policies and actions which makes public relations a vital part of any organization. Stress should be placed upon the word "part," as it is public relations' function to combine and evaluate facts and communicate the results to others. It is the need to communicate within the organization and to communicate to publics outside the organization that makes it necessary for public relations to be concerned with the entire program.

With this brief statement, this paper will deal with three elements in public relations theory. These elements will be classified as (a) consideration of fundamental matters, (b) organization involvement in decision, (c) evaluating the public interest. As the assigned subject pertains only to theory, specific techniques of practice such as speeches, press, employee indoctrination, etc., will only be discussed when necessary to illustrate a point.

Any development of theory relating to specific matter presupposes its use within a given set of circumstances. In this instance, the circumstances will be assumed to be those surrounding the daily working relationships of milk and food sanitarians with producers, processors, government agencies, consumers, and many other publics. However, the decisions will be applicable generally to any organization in government, business, or other organized groups associated for a common purpose.

CONSIDERATION OF FUNDAMENTAL MATTERS

Today's complex society has given rise to many conditions which the individual cannot comprehend, even though he has been alerted to them by a vast and rapid network of mass communications. Many of these matters are concerned with the basic human want for food. A necessary part of that want is the need for drugs. The current disasters of the drug

thalidomide is an example of a broad knowledge of a happening by the public, but comprehension of the facts by only a few. Another example is the pesticide scare of only a few years ago. Both of these matters were fundamental to the organization of business and government in their relations with the public.

Although written in a jocular vein, an editorial from the September issue of *Forbes Magazine* is to the point.

"For generations Americans have been weaned to the words, 'Now drink your milk'. In my youth, as I recall, all that was needed to be an All-American football hero was the consumption of at least a quart of milk with every meal. Milk made the man. In fact, between doctors and the dairy industry, the cow was rapidly replacing the dog as 'man's best friend'.

"How Now Brown Cow!"

"The beasts may still be sacred in India but the polysaturated old things are no longer safe on Main Street, America.

"Cholesterol's done it.

"I don't quite understand what Cholesterol is, but it sounds like a cross between a chigger and fallout. Whatever it is, it seems that cows spread it around disguised as milk and all these generations we've been pumping poison into these kids. No wonder all our forebearers are dead . . .

"Frankly, I don't know how the presidents of National Dairy, Borden, The Cattlemen's Association, and The Dairymen's Association manage to sleep nights. In fact, maybe they don't. Maybe they're all up all night working to develop a poly-unsaturated cow.

"The whole thing may seem udderly ridiculous, but, you know, it is a food fashion shift involving billions of dollars."

Though facetious, this editorial and many more like it will give rise to quandary in the public mind. The question arises "Why doesn't someone educate the public as to the facts?" The answer lies in the fact that many organizations in government and business have diverse interests and no force has brought them together for a common-ground evaluation of the problem. For the purpose of example, it is enough to say that the problem of cholesterol is a fundamental matter to many organizations.

The element of consideration of fundamental matters as a part of the theory of public relations can be applied to instances of this type in the area of milk and food sanitarians. This application can be made for all, whether they are engaged in corporations, trade associations, or city, county, state or federal sanitation organizations. All organizations should follow the same basic principles and vary only to

the extent of numerical size, geographic area to be covered, and number of groups to be considered.

Daily activities of a city sanitation department run the gamut—from checking the compliance of dog-food formulas to the use of antibiotics in sterilizing milk equipment. The publics involved range from the Society for the Prevention of Cruelty to Animals to the Association of Pharmaceutical Salesmen. Milk is a product that brings into play many forces and publics. An action by the sanitation department could involve dairy producers, equipment dealers, processors, retailers, school authorities, P.T.A.'s, medical authorities, and the consuming public.

The sanitation department faced with the need to change its ordinances prescribing bacterial count, butterfat minimums, or type of container, is considering a fundamental matter in respect to the many publics with which it deals. Regulation of butterfat content may not, in the strictest sense, be a sanitation function, but it is invariably included in drafting regulations. Isolating the one point of butterfat will be enough to illustrate the public relations consideration.

Historically, in many areas, the paying price for raw milk is based upon butterfat content, or a formula in which butterfat is an important factor. A change, up or down, in an ordinance setting minimum fat content is likely to bring cries of anguish from the producers with too high or too low butterfat-producing cows. It is difficult to satisfy both. If the change requires a different paying price for pool milk or manufacturing milk, processors evaluate the ordinance in the light of how it affects them. School authorities view it in relation to their dietitians' thinking as to school lunch programs. All the publics look through their own eyes and take a stand accordingly.

The burden of providing hearings for communicating the desires of the many publics to the sanitarian and, in turn, the methods he uses to communicate his decision to the publics, falls upon the public relations program. It is evident that a mere publicity release after the action would only create more problems. The facts of the need for a change must be presented to the groups concerned. Their recommendations must then be considered seriously and the best possible solution presented for action by the city governing body.

The example is easily recognized as having a public relations aspect but, many other fundamental matters are not recognized so readily. The changing of a procedure or rule in inspecting a milk processing plant perhaps is not so easily recognized. However, what appears to be desirable and necessary to the sanitarian's way of thinking may appear

catastrophic to the processor, thereby creating serious relations problems. It may place overwhelming burdens of cost, labor, or production problems to the point of jeopardizing the organization.

Decisions on fundamental matters concerning the sanitarian or his organization must always be based upon the various publics involved, as their acceptance will determine the success of the action. To promulgate a rule without consideration of public reaction—a rule too drastic to take in one step, or the omission of educational preparation of the publics, is almost sure to guarantee non-compliance and unmanageable enforcement problems.

To review fundamental matters in the light of their relations effect is not to reduce the sanitation values. It does not mean any lessening of the carrying out of the trust implied in the sanitation function. Properly applied, public relations serves not only as an essential ingredient, but also as a major asset in accomplishing good sanitation practices.

Fundamental matters take into consideration those things affecting the functions of the sanitarian in his relations with many publics. Some of the matters affect so few, and in such a minor way, that only limited consideration need be given to the relative problem. The sanitarian can train himself to evaluate the facts in order to discern those which must have major consideration, and those which are of only minor importance.

ORGANIZATION INVOLVEMENT IN DECISION

The ultimate responsibility for making decisions affecting public relations rests with the chief executive officer or directors of the organization. However, to reach a good relations decision, all facets of the matter in question must be considered. Therefore, the element of involvement of all those affecting, or affected by, the decision is necessary to make the theory of public relations work.

To arrive at a sound decision, all those taking part must have knowledge of the reasons making the decision necessary. Although the individual may realize that a problem exists, his effectiveness will be only in relation to his over-all understanding of the public relations policy of the organization. This makes necessary the indoctrination of the entire organization in the philosophy of management. To do otherwise is to run the risk of the old saying "A man convinced against his will is of the same opinion still."

Although all members of the organization do not have direct interest in specific decisions, lack of knowledge on the part of just a few can thwart the best-laid public relations plans. Many relations problems have resulted from the confusion that is

apparent when two differing views emanate from the same organization. The broad scope of public relations makes it readily apparent that it is impossible to apprise all personnel of the details concerning all public relations decisions. However, management should keep all personnel informed and provide enough explanatory information to form an understandable basic relations philosophy and policy.

In the above examples, the possibility of a change in procedure or rules for the inspection of milk processors was mentioned. Need for such a change might be motivated by increasing or decreasing budgets, additional personnel, qualification under U. S. Public Health rules, competition from other milk sheds, or any of a great number of reasons. In some instances, such changes can be and are made without consideration of anyone other than the inspectors directly involved.

Internal decisions and actions by an organization have a way of turning into external discussions by the general public. In spite of cautions to the contrary, dinner-table discussions, attendance at church, civic clubs and other meetings, a round of golf, or just plain neighborliness, become forums for discussion of the organization's actions.

Such discussion soon turns into full-blown "rumor" and "gossip." Distortion resulting from lack of knowledge by persons involved in the organization creates and multiplies relations problems. By making known the facts surrounding an action, through organization involvement in the decision, distortion and unfounded rumor potential is reduced.

EVALUATING THE PUBLIC INTEREST

In the past two decades, there have been many innovations in milk marketing. In the early 1930s, sanitation ordinances were passed which prohibited the marketing of fluid milk in one-gallon glass containers. Sanitarians ruled that it was impossible to properly clean such a bottle with existing equipment. This was a proper action to protect public health. By the 1950s, new equipment had come into existence which was purported to satisfactorily clean such bottles.

This change set in motion activities that involved many publics in a major way. The processors with tremendous investments in paper or smaller glass unit equipment could envision a new competitive factor in the market. The organization installing the new equipment could envision a sales advantage. The sanitarian was immediately surrounded by relations problems. Regardless of the persuasion of the equipment manufacturer, the processor buying

the equipment, the processor retaining the existing equipment, or the desire of particular retail buyers, the first and foremost decision had to be consideration of the ability of the new process to clean the bottle without the possibility of creating unsanitary conditions. Such a decision would be in the general public interest, above and beyond regard to the persuasive special interests. Special interests can and do, in many cases, represent the general public interest and should be considered as having been offered in that light until proven against public interest. Although good public relations practices would not make such a decision all "sweetness and light," they can and should increase the public understanding and acceptance. Properly planned, a relations program can be an aid to enforcement of the decision.

This type of decision can readily be understood as in the public interest. However, some sanitation practices occur which could be termed "doubtful" as measures concerned with public interest. Fortunately, these are few in number, but just those few can cast doubt on the validity of many.

For example, the workload of the sanitation department is sometimes such that the inspections, or testing, fall short of good sanitation practices. Delays can build up agitation and may even cause economic losses to those organizations being inspected. In a perhaps sincere but false sense of protecting their profession as sanitarians, workable solutions are questioned and rejected in some cases in favor of increasing personnel through expanded budgets.

The public interest has been served by many sanitation departments through providing solutions other than building a bigger department. In some areas, private laboratories have been certified under a system of licensing by the U. S. Public Health Service. Others have used organizations such as county, state, or federal laboratories, etc. These efforts have eased the strain on the city sanitation department, brought about better and more rapid testing, thereby improving the relations and, in the long run, doing a more creditable job of serving the public interest.

A discussion of the overlap of authorities, lack of uniformity, and jurisdiction problems, further points up the problem of general public interest. Although any individual sanitation unit may have sound reasons for promulgating a rule, the public interest ceases to be served when the effect is negated by an overlapping or conflicting rule of another unit. The individual sanitation opinions, when enacted into law, create costs in the market. Sanitarians must constantly strive to bring about uniformity in order to best represent the public.

COTTAGE CHEESE PROBLEMS IN PRODUCTION AND SANITATION — THE CURD-O-MATIC SYSTEM OF PRODUCTION, ITS PURPOSE AND FUNCTION¹

W. F. MUELLER

Stainless Steel, Inc., Van Nuys, California

We all know the tremendous amount of work that has been done to date to improve the quality of cottage cheese. We will hear more about additional techniques and trends that will further standardize and improve quality. Now it may come as a complete surprise to everyone to learn that the Curd-O-Matic does nothing to improve the original quality of cottage cheese. Its purpose is to maintain and preserve the original quality, and to fill a production need.

The present trend is to consolidate production in specialized plants where large volumes of cottage cheese are produced with professional operating personnel. This trend has been brought about by product improvement and standardization. It has been brought about by consumer demand. Cottage cheese is a food "natural." It fits into the mood and diet of America like baseball and politics, resulting in more and more consumption. It has been brought about also for economic reasons. With fast transportation and good refrigeration it is only logical to consolidate production for efficiency's sake. The one-and two-vat operation will become as obsolete as the one- and two-cow dairy farm.

To project these trends, one can only conclude that cottage cheese, a food natural, is so favored it will continue to grow in volume. What started out as a stepchild is fast becoming a major factor in the dairy business, particularly in the profit column of the ledger.

In order to keep cottage cheese well in the profit column, we need to consider practical and economical ways of handling volume production. Volume production brings to mind mass production and automation. Henry Ford is recognized as the father of mass production techniques. It is now an established fact that Henry Ford's production line concept is the most practical and economical means to produce a product in quantity, as well as quality. It is also the only practical way to continue to increase production. Here is where the Curd-O-Matic

serves its purpose—production unlimited, or, tons of cottage cheese instead of pounds.

The function of the Curd-O-Matic is to process cottage cheese efficiently under quality controlled conditions, in a fast, continuous flow production line. The machine is a conveyor production line with fast step by step processing.

First, let us consider the cost of the operation. There is, of course, the original cost of the machine. The labor operating cost consists of the labor needed before and after the machine. The Curd-O-Matic, itself, is completely automatic. The processing material, other than electric power, is 500 gal of city water and 600 gal of refrigerated water (33F) for each 1,500 gal vat, far less than presently used. The time required to process a 1,500-gal vat is 12 min. This can be slowed down or speeded up, depending on the overall plant requirements. Considering this time element, the operator can double and triple-set his vats when needed.

Under the heading of quality control, the Curd-O-Matic is manufactured according to 3-A Sanitary Standards. The machine is completely covered, so in itself is a cooling tunnel, independent of the heat of the plant and protected from air-borne yeast and mold contamination. What is most important is that day in and day out the curd gets the same consistent treatment; a thorough washing, immediate cooling to 40F with uniform moisture and creaming. The human element of error is eliminated. This results in a standardized quality product.

To process the curd, the whey is first drained off the vat. Enough city water is then added to facilitate pumping. Using a suitable pump, the curd is transferred to the Curd-O-Matic. The temperature of the curd in the vat will be around 80° to 86°F.

In order to balance the pump to the machine hopper, an electric level shut-off furnished on the hopper is connected to the pump. When the level of curd in the hopper gets too high the pump will shut off.

In the receiving hopper there is a metering device that calibrates a one-inch thickness of curd on the moving stainless steel conveyor. The water used in pumping the curd to the machine drains off

¹Presented as part of a Symposium on Cottage Cheese at the 49th Annual Meeting of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC., at Philadelphia, Pennsylvania, October 24-27, 1962.

immediately. The one-inch thickness of the curd on the conveyor then moves under a deluge of water at 48F that has been recovered from the refrigerated water cooling section. The water tempers the curd with a pre-cooling and washing.

Next the curd moves through the refrigerated water (33F) section. Here the water sprays up through the curd as well as down. Progressively the curd is thoroughly washed and cooled, with only fresh refrigerated water passing through the curd.

Between the cooling section and the press section the curd goes under a grader or leveler that again distributes the curd evenly one inch thick on the conveyor. The curd then enters the press where a converging belt, running at the same speed as the conveyor, gently squeezes the curd to the desired moisture content. Any desired moisture content can be acquired by adjusting the end opening on the press. Once adjusted, the moisture content remains constant.

After leaving the press, the curd falls into the creamer. The creamer consists of a screw conveyor that gathers and mixes the curd while a calibrated amount of cream is sprayed on it. This creaming operation eliminates the need for violent agitation as it progressively mixes given amounts of curd and dressing.

The creamed curd then moves into the discharge hopper for loading into containers, or is transferred to the packaging machine.

The temperature of the curd at the discharge end

is 40F. This temperature remains constant since there is no latent heat held in the curd.

Drainage from the entire machine permits recovery of all the fines that were washed from the curd. A perforated stainless steel drum is revolved to keep the fines from adhering to the drum. The water is piped to the drain, leaving the fines in the fine storage tank. During the day's run, the fines can be removed from the fines storage and put back into the next vat of cheese being processed, or they can be added to the finished product. A complete recovery of all fines in usable condition is accomplished.

The principle behind the fast washing, cooling and drying is something like the plate cooler. The one-inch layer of curd is readily exposed to the continuous processes where each kernel of curd gets its individual treatment. All the final refrigerated water used for washing the curd is fresh chlorinated water, used only once. There is no dilution factor as in vat washing. The curd is processed uniformly each day. The washing, cooling and drying process is thorough and immediate.

In recent years, the dairy industry through necessity, has adopted more and more automation and mass production techniques in its processing. In the manufacture of cottage cheese very little has been done along these lines. It still remains basically a hand operation. Now, with one press of a button, the Curd-O-Matic makes the processing of cottage cheese automatic.

SECOND IN A SERIES

TRAINING OPPORTUNITIES FOR THE SANITARIAN¹

SPECIALIZED IN-SERVICE TRAINING

R. F. CLAPP

*Training Branch, Communicable Disease Center
U. S. Department of Health, Education, and Welfare, Atlanta, Georgia*

The term "In-Service Training" does not defy definition or description—it seems to invite it. This happy fact permits one to choose, or to invent, any description that suits his ends, and only incidentally confuses the subject to the extent that no definition is widely accepted or understood. This state of affairs is not the result of caprice on the part of those concerned with continuing education, but results

from varying interpretations of the objectives and training methods to be included in the term.

To establish a ground of common understanding, for the purpose of this presentation, arbitrary limits are given to the scope of our subject, "Specialized In-Service Training." This training requires a pre-prepared instruction plan and learning situation. It is structured and formalized regardless of teaching methods employed and whether or not the structure is evident to the trainee. The training is identified as a short course of instruction and may include classroom, laboratory, and field exercises. A com-

¹Presented as a part of a Symposium on Training Opportunities for the Sanitarian at the 49th Annual Meeting of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC., at Philadelphia, Pennsylvania, October 24-27, 1962.

pleted course is rarely given in less than one day or in more than three months, and attendance does not require lapse of tenure in employment.

OBJECTIVES

Training conducted within these limitations will have one or more of the following specific objectives. Some of these objectives also relate to other methods of instruction, but all these listed have tried and proven application in in-service training.

1. Orientation of newly-hired personnel.
2. Specific job training of newly-hired personnel.
3. Bridging the gap between academic training and job application.
4. Refresher and up-dating training in specific technical areas with particular emphasis on recent developments.
5. Providing an introduction to, and developing competency in, a new technique within an individual's field of specialty.
6. Equipping an individual to undertake a field of specialty or move from one specialty to another.
7. Preparing field personnel to assume higher administrative responsibilities.
8. Stimulating attitudes and skills required in dealing with individuals, groups, and the public.
9. Training to meet emergent situations, newly recognized problems, or newly authorized activities.
10. Acquisition of generalized background information necessary in understanding problems, making sound judgments, and in appreciating the entire operation of his organization.
11. Providing opportunity for formal and informal exchange of information and views between persons with similar interests.
12. Correction of non-productive routine operations and lagging interest.
13. Stimulating administrative changes to meet current and anticipated program needs.
14. Meeting requirements of merit system for tenure and advancement.

OPPORTUNITIES

Even for one who is engaged full time in the development and presentation of training courses for environmental health personnel, a detailed inquiry into the in-service training opportunities for sanitarians is an amazing experience. Not only do the types and numbers of courses offered seem almost limitless, but also the numbers and kinds of sponsoring agencies involved seem virtually too numerous to identify. The compilation of a comprehensive listing would not be possible without conducting an extensive special study. In lieu of such a report,

certain readily identifiable resources will be discussed and others indicated.

U. S. Public Health Service

Within the U. S. Public Health Service, some sixty-eight short courses for which sanitarians may apply are sponsored by the Robert A. Taft Sanitary Engineering Center, the Communicable Disease Center, and the Division of Health Mobilization. The Sanitary Engineering Center offers to qualified candidates survey and advanced technical courses in radiological health, milk and food sanitation, water supply and pollution control, air pollution control, metropolitan planning and occupational health. Many of these are offered as headquarters courses in Cincinnati, Ohio, as field courses in the states, and as cooperative presentations in colleges and universities. In Fiscal Year 1962, 170 sanitarians were enrolled in these classes; 55 in radiological health, 55 in milk and food sanitation, 41 in water supply and pollution control, 11 in air pollution control, and 8 in metropolitan planning.

Also, in the last fiscal year, 1129 sanitarians were enrolled in the several presentations of twenty of the sixty-two headquarters and field courses offered by the Communicable Disease Center. Those courses emphasize, in whole or in part, the environmental aspects of the control of a disease or group of diseases, or relate directly to program operation in this field of interest. An exception is health mobilization training conducted in cooperation with the Division of Health Mobilization. These courses may be grouped as follows with the figure in parenthesis indicating sanitarian enrollment for the last year: seminars and symposia on specific diseases (268), epidemiology and general communicable disease control (116), vector control (260), environmental control of communicable diseases (278), venereal disease control (62), training methods and aids (48), communicable disease control organization and orientation (9), and health mobilization (91).

The Training Program Bulletins issued annually by the Sanitary Engineering Center and the Communicable Disease Center describe the courses, indicate dates and place of presentation when feasible, state the desired qualifications of applicants, indicate the method of application, and give pertinent information on the training facilities. These bulletins are widely distributed throughout the states prior to the start of each fiscal year. In addition, courses are frequently announced through the mailing of special course announcements. Other Public Health Service training opportunities of interest to the sanitarian are those offered by the Division of Health Mobilization headquarters in Washington, D. C., and by the Evening School operated by the National

Institutes of Health. The former conducts short field courses that apply emphasis to environmental aspects of chemical, biological, and radiological warfare. The Evening School presents a wide variety of basic and applied courses in the traditional semester pattern and are therefore limited to residents of the metropolitan Washington area.

Other federal agencies

A large number of other Federal agencies conduct courses pertaining to environmental health in their area of interest. Of particular note is the vast complex of courses available from the several branches of the Armed Forces. While these are intended primarily for active duty and reserve members of the Armed Forces, civilian enrollment may be permitted in some instances. In addition to courses requiring personal attendance, some are offered through correspondence. It is beyond the scope of this paper to list the courses available or to describe the many categories of eligibility requirements, and it is suggested that sanitarians with reserve status or interested civilians obtain detailed information on courses and requirements from Army, Navy, and Air Force headquarters in their area. The U. S. Department of Agriculture Graduate School located in Washington includes in its catalog, a large variety of courses pertinent to the activities and interest of sanitarians. Applications for these courses, both residence and correspondence, are accepted with priority given Department of Agriculture personnel, but others are accepted if facilities permit. A detailed catalog is available on request and it is of interest to note that the school maintains a reference service that will direct applicants to other training facilities throughout the country if it cannot provide the training requested. The Food and Drug Administration schedules courses of in-service training for those engaged in activities in its sphere of interest. Information on such courses may be obtained directly from the Food and Drug Administration headquarters in Washington and may also be available through the several district offices. While these agencies are the ones that come immediately to mind, they represent only a sample of those that on a regular basis, or at least from time to time, offer valuable training. Virtually every large Federal agency supports a training operation which will be glad to furnish specific course information upon request.

Universities and colleges

In addition to graduate and undergraduate curricula, many colleges and universities through extension and similar services list extensive in-service training opportunities. A few, such as the University of Oklahoma, the University of Indiana, and East Tennessee College, provide basic orientation to and

training in environmental health. In addition to such introductory courses, colleges and universities offer, in the field of sanitation, short course presentations up through the graduate level. These may be offered by the institution itself or may be given in cooperation with other agencies. They are normally listed, or specifically referred to, in the catalog published by the institution. In some areas where particular interest has been indicated, special announcements of such courses are distributed through the sanitarians' organization in the state. For sanitarians who live within reasonable distances of institutions of higher learning, it is normally possible to register for individual courses from the regular curriculum. Not infrequently these are offered as night courses, or attendance may be scheduled in with regular employment. Some of these courses in administrative and technical fields provide immediate useful information and others may be taken as prerequisites to specialized training. For example, an individual desiring qualification in radiological health may find it necessary or desirable to correct personal deficiencies in physics and mathematics. While some might question the inclusion of work toward a degree as in-service training, it should be mentioned that opportunities for this exist. In the area of housing hygiene, for example, sanitarians have found it desirable to acquire a law degree through night study. Frequently, junior colleges and technical schools offer certification programs in subjects directly related to environmental health.

State agencies

A number of state health departments have developed excellent short courses for sanitarians. These also range from basic to highly advanced and have the advantage of being geared to the conditions and objectives peculiar to the state. The problem of general sanitation training for new employees has been solved in several states by the regular presentation of excellent introductory courses. It is understood that in some of these, candidates from other states will be accepted as facilities permit. At least one state is offering correspondence courses to sanitarians as an extension service of the State Health Department. It has been encouraging to note that sanitarians' seminars conducted annually or semi-annually by state health departments more and more are planned as carefully constructed in-service training sessions. To meet specific needs and interests in at least two states during the past year, outstanding courses in administration for sanitarians were planned and conducted.

County and city agencies

Specifically identified in-service training courses conducted by city and county health departments ap-

pear at the moment to be confined almost exclusively to a relatively few large departments. These follow the general pattern and have the same advantages of courses conducted by states. It is particularly desirable to explore the possibilities and practicality of specialized in-service training at this level.

Private industry

At least one seminar in environmental sanitation sponsored by a private industry has attained national recognition. While this is rather an exception, it should not obscure the fact that many industries will offer training to the sanitarian on request. Requests for an acceptance of such training should, of course, be made with proper consideration for legal and ethical relationships. However, certain types of instruction are obtainable only from such sources and are effectively utilized by health departments as well as many other public agencies.

Professional organizations

Professional organizations such as this and related voluntary groups by constitution and by-law almost invariably commit the organization to in-service training as a major objective. A particular tribute is due the officers, program committees, and membership in recognition of the ever increasing special approach being made to the meeting of this important objective.

INDIVIDUAL INITIATIVE ESSENTIAL

It would seem appropriate to conclude this discussion with a few general remarks on in-service training. It would seem apparent that any sanitarian, whatever his training needs or objectives, can find suitable training courses available to him if he will make the effort to search them out. This relates directly to the amount of determination and drive that an individual has to continue his education. It is rare that training to meet momentary enthusiasm or short-term goals will prove effective and, as a result, time can well be spent in the careful preparation of a long-range personal development program. Frequently the successful completion of such a program requires the support and understanding of a person's agency and supervisory personnel, and considerable effort may be required to have training accepted as an investment rather than an expense. The individual's own attitude and activities will do much to supplement the efforts made by far-seeing management and training institutions to promote this concept. It will also be profitable to keep in mind that, although much training is taken to meet immediate needs, employment in environmental health is not entirely a day-to-day concern and some training opportunities should be sought that will equip the sanitarian to appreciate and grow with the future in this field.

RAPID DETECTION OF FAECAL COLIFORM BACTERIA IN THE FOOD PROCESSING PLANT¹

J. ORVIN MUNDT AND B. N. RAI²

*Departments of Bacteriology and Food Technology,
The University of Tennessee, Knoxville*

Received for publication December 9, 1962

A medium composed of 2% tryptone and 0.5% bile salts incubated at 44.5-45C is quite selective in the detection of faecal coliform bacteria. Production of indole after 24 hours of incubation constitutes the positive test. Through the use of large test tubes, samples of materials weighing 1 or more grams may be taken directly at the sites of operation within foods processing plants. The medium and the procedure are sensitive to 1 to 2 cells per inoculum, and it has detected *Escherichia coli* in samples yielding no colonies of coliform bacteria when plated at 1:10 on violet red bile agar.

Although one may question the value of the coli-

form plate count of some foods as obtained on plating media such as violet red bile (VRB) and desoxycholate agars, as some authors have done recently (3, 4, 5), there can be no question as to the significance of *Escherichia coli*. The organism thrives exclusively in the intestinal tract of man and of warm-blooded animals, a fact most recently reaffirmed by Geldreich *et al.* (1).

Producers of partially or completely-cooked foods are keenly aware of the implications, and they are quite anxious that their products be kept free of this organism. Up to the present time, however, no readily applicable method for the detection of *E. coli* has been developed for the benefit of operators of the smaller processing plants. Methods presently in use—however excellent—require trained personnel

¹Published with the approval of the Director of the Tennessee Agricultural Experiment Station.

²Present address: College of Veterinary Medicine, University of Madras, Madras, India.

and investment in equipment and time beyond the means of the operation; or, alternatively, commercial laboratories are too remote to provide the services desired economically or expeditiously. Further, the methods now in use have been inherited from those now applied to water and milk and milk products, and these methods are not always adaptable to use with other foods.

A testing procedure which is saving of time and material, which requires relatively inexpensive equipment, and which can be performed by relatively untrained personnel is described in this paper.

EXPERIMENTAL PROCEDURE

Requirements of the procedure

To be useful in food processing plants, any procedure for the ready detection of *E. coli* must meet certain criteria. The criteria listed below served as a guide in development of the procedure reported here.

1. The procedure must be sufficiently simple so as to be used reliably by intelligent personnel who have not had the benefit of laboratory training or collegiate education.

2. It must be capable of detecting *E. coli* when it is present in minimal numbers in samples of food taken directly from the processing line and before the organism has had an opportunity to grow in the food item. This requirement recognizes that quite frequently undesired faecal contamination introduces very small numbers of *E. coli* per gram or ml of food.

3. The method must lend itself to a sampling procedure within the plant at all points of processing of foods with a minimum of effort and a minimum of attention to sample size.

4. The medium employed must detect *E. coli* selectively, and it must support sufficient growth within the specified time of incubation in the presence of accompanying bacteria to enable detection.

5. The method must be economical in the investment of equipment and of time.

Among these requirements, the method of cultivation and the method of detection become the critical factors. All media heretofore used in coliform bacteriology have been developed for the analysis of waters and dairy items. Fortuitously, they rely upon the formation of acid from lactose if they are solid media and of gas if they are liquid media. Many foods contain natural or added sugars other than lactose (*e.g.*, strawberries) which are fermented to acid or to acid and gas by bacteria other than *E. coli* (8). The production of gas, therefore, cannot serve as the means of detection of *E. coli*, and sugars become nonessential in a detecting medium.

Mackenzie *et al.* (6) and Papavassiliou (9) in two-step procedures relied upon the suppression of gas-forming anaerobes with brilliant green and the detection of faecal coliform bacteria by testing for indole upon subculture in peptone water incubated at 44C. These authors found it necessary to detect the very low percentage of faecal coliform bacteria which produce gas, but not indole. In this study it was reasoned that the very ubiquity of typical *E. coli* rendered the use of inhibitors other than bile salts unnecessary.

As finally developed, the proposed medium contained a protein digest rich in the amino acid tryptophane, and supplemental bile salts to render the medium functional with fairly large inocula of foods. Selectivity was achieved by incubation at 44.5C (1); except for rarely occurring strains of *E. freundii*, the relatively few species of bacteria capable of growth in bile media at this temperature are unable to produce indole (9).

Attempts to use standard proprietary media for the rapid detection of *E. coli* by means of indole production were not satisfactory. Possibly because of the well-known protein sparing action of carbohydrates, production of indole to the detectable level was delayed as much as 5 days; hence, sugar was omitted in development of the test medium reported here, thus forcing the organisms to gain energy through metabolism of amino acids.

The Test Procedure

The medium consists of 2% Bacto-tryptone and 0.5% Bacto-bile salts tubed in 20-ml quantities in test tubes measuring 150 x 25 mm OD and sterilized at 121C for 15-20 minutes. It is stable on storage. Some tryptic digests impart a light orange, rather than a deep crimson color in the final test, which is indistinct and confusing.

The inoculum may be taken directly into the tube at the processing line with forceps cleansed between each use with tissue and then dipped into 200 ppm chlorine solution, or with a spoon similarly cleansed and sterilized if the product is liquid or viscous. Samples weighing 1 gram are recommended, although in practice samples weighing nearly 10 grams have been taken with apparently no adverse results, and in the laboratory 10 ml of 1:10 suspension or dilution of food items have been used routinely.

Incubation is done at 44.5-45.0C in a covered water bath of high fidelity for 24-48 hours. The temperature of incubation is the most critical feature of the procedure. Not only must the temperature be kept accurately within a very narrow range, but also the tubes must be immersed with the water level above the level of the contents of the tube.

Stress upon the necessity for maintaining the pre-

cise temperature required in the test should be emphasized. The temperature of 44.5 to 45.0C can be maintained only with a water bath with a strong heating element and a thermostat of high fidelity. The bath used in most of our work has a perforated, magnetically activated false bottom to agitate the water. The heating elements, with a power demand of 2,400 watts, run the length of the bath. It is placed in a draft-free location along the inside wall of the laboratory. It maintains the temperature satisfactorily when the cover is properly fitted, at room temperature of 20C (68F) and above. It has a current list price of slightly less than \$400. A foods laboratory of our knowledge has constructed a much smaller bath demanding 600 watts with peripheral insulation and a styrofoam cover, with satisfactory maintenance of temperature.

After incubation, tubes are shaken vigorously to suspend inoculum and growth, which frequently lodge in the lower half of the tube. With a pipette, 0.25-0.5 ml of freshly prepared Kovacs reagent (0.8 g *p*-dimethylaminobenzaldehyde in 15 ml *n*-amyl alcohol and 5 ml conc. HCl) are added so as to flow down the side wall of the tube and to stratify in a layer on the surface of the medium. The tube should not be shaken at this point for the typical carmine color indicative of the presence of indole appears immediately in the surface layer, and weak tests may not be detected. Occasional strains of *E. coli* produce indole slowly, even in pure culture, at 44.5C. The faint color becomes more intense upon standing for one minute. No test has become positive beyond one minute after addition of the reagent.

EXPERIMENTAL RESULTS

Reliability of the Test

A total of 962 samples consisting of dehydrated, reconstituted and frozen vegetables, meats in various stages of preparation for serving and as partially-cooked and pre-cooked food items, flours, doughs, shortenings, gravies, broths, milk, spices, salt, bread, dressings, sugars, and waters have been tested by the procedure. *E. coli* was detected in 148 of these samples (Table 1). Prior to the addition of the Kovacs reagent, streaks were made on eosin methylene blue agar (EMB) from 735 of the samples. Of

TABLE 1. DETECTIONS OF *Escherichia coli* WITH THE SIMPLIFIED TEST AND CONFIRMATIONS ON E.M.B. AGAR

	Total number of samples	Simplified test	
		Positive	Negative
Number of tests made	962	148	814
Number verified on E.M.B. agar	735	114	621
Number with <i>E. coli</i>			
on E.M.B. agar	111	96	15
Number with no <i>E. coli</i>			
on E.M.B. agar	624	18	606

the 114 detections within this group of samples, 96 were confirmed by recovery of *E. coli*. *E. coli* was also obtained on 15 EMB plates from samples negative in the liquid test. Failure to detect *E. coli* on EMB in some instances can be attributed to overshadowing growth by accompanying bacteria. Numbers of false negative tests were reduced when, during the course of the study, the shaking of the culture tube prior to addition of the Kovacs reagent was adopted. In one instance, colonies of typical *E. coli* selected from EMB produced indole at 37°C, but not at 44.5C.

Sensitivity of the Test

A modified MPN determination made in parallel with plating on VRB agar indicated that with each of 5 pure cultures the test medium detected *E. coli* at the level of 1 to 2 cells per inoculum.

In additional pure culture studies, all cultures having the IMViC pattern of (+ + — —) produced indole at 44.5C. Two of 3 strains of *E. freundii* var. II (+ + — +) also produced indole. Strains with this IMViC pattern constitute approximately 1% of the faecal coliforms of the human and of warm-blooded animals (1) and also occur rather constantly at about 3% of the coliform population of both undisturbed and polluted soils (2). One strain with the IMViC pattern (+ — — —) did not produce indole at 44.5C.

TABLE 2. CITRATE UTILIZATION BY CULTURES OBTAINED IN PLATING EIGHT SERIES OF FOODS ON VIOLET RED BILE AGAR

Plating series	Number samples per series	Number samples with colonies	Number of colonies selected	Number of colonies utilizing citrate	Number of colonies <i>E. coli</i>
I	37	12	28	28	0
II	39	21	32	32	0
III	42	18	38	28	3 ^a
IV	31	11	21	18	0 ^a
V	16	8	29	26	0 ^a
VI	7	5	21	19	0 ^a
VII	16	9	36	36	0
VIII	6	8	6	5	1
Totals	194	92	211	192	4 ^a

^aDifferences represent colonies which are neither citrate-utilizing bacteria nor *E. coli*, as shown by the IMViC test.

Identification of Colonies Appearing on VRB Agar

Four colonies per sample (or all colonies if less than 4) that appeared on plates of VRB agar in the plating of 194 samples in 8 plating series were selected for identification by the IMViC tests (Table 2). *E. coli* was not obtained from plates of samples which were negative to the tube test, but they were obtained from plates of 4 samples which were positive to the tube test.

Correlation with Colony Counts

The reported coliform counts of 962 samples ob-

tained on VRB agar are correlated with the results of the test in Table 3. *E. coli* was detected in 33 (5.7%) of 578 samples with no reportable count at 1:10 dilution and in 28 (23.7%) of 118 samples with not more than 10 coliform bacteria per gram.

TABLE 3. DETECTION OF *Escherichia coli* WITH SIMPLIFIED TEST CORRELATED WITH REPORTED COLIFORM COUNTS ON VIOLET RED BILE AGAR

Reported coliform count	Total number of samples	Number of samples positive for <i>E. coli</i>	Per cent	Number of samples negative for <i>E. coli</i>
0	578	33	5.7	545
1-10	118	28	23.7	90
11-50	120	42	35.0	78
51-100	44	10	22.7	34
101-1,000	75	24	32.0	51
over 1,000	27	11	40.7	16
Totals	962	148	15.3	962

Time of Testing

In a series of tests aliquots were removed from the test tube in the water bath at various times (Table 4). In one series, testing at less than 18 hours of incubation detected 55% of the samples positive at 24 hours, and an additional 20% were detected as positive upon incubation to 44 hours. In another series of comparisons prolonged incubation detected an additional 16% positive samples.

TABLE 4. EFFECT OF TIME OF SAMPLING UPON DETECTION OF *Escherichia coli*

Time of sampling	Number of positive tests	
	Series A	Series B
13-17 hours	11	
23-25 hours	20	36
41-44 hours	24	42

Effect of Shaking the Tube upon Recovery of *E. coli*

A series of 356 samples were streaked on EMB agar both before and after the incubated culture tube was shaken. Shaking led to the recovery of *E. coli* from 69 samples (Table 5), as compared with recovery from 50 samples prior to shaking.

Detection of Pathogenic Strains

Each of 11 pathogenic strains of *E. coli* obtained through the courtesy of Dr. Guy T. Barry of the Memorial Research Center of The University of Tennessee grew and produced indole in the test medium.

DISCUSSION

The experimental results suggest that the test procedure has a reliability of at least 84% in the detection of *E. coli* in line samples, ingredients, and finished

TABLE 5. EFFECT OF SHAKING OF CULTURE TUBE UPON RECOVERY OF *Escherichia coli* ON E.M.B. AGAR

Number of samples streaked	356
Number yielding <i>E. coli</i> before shaking culture tube	50
Number yielding <i>E. coli</i> after shaking tube	69

food products. It is probable that no testing procedure can be developed in which all faecal contamination can be detected within 24 hours.

Any procedure relying upon the detection of *E. coli* as an index of pollution can be criticized, because microorganisms such as the paracolobacteria, *Proteus*, and *Salmonella* spp. will not be detected (7). The ubiquity of *E. coli* is such, however, that when it is detected, it alerts the sanitarian to conditions conducive to admission of the pathogens.

In some respects the test procedure reported here is more rigorous than are the standard plating procedures, for it has detected *E. coli* in items with no countable colonies on VRB agar at dilutions of 1:10. It also provides a means of detecting faecal contamination in items such as flour from which the colonies arising on plating media very nearly approach the characteristics of *E. coli*, yet which are identifiable as part of the normal microflora of the product.

REFERENCES

- Geldreich, E. E., Bordner, R. H., Huff, C. B., Clark, H. F. and Kabler, P. W. Type distribution of coliform bacteria in the feces of warm-blooded animals. J. Water Pollution Control Fed., pp 295-301. (Mar), 1962.
- Geldreich, E. E., Huff, C. B., Bordner, R. H., Kabler, P. W., and Clark, H. F. The faecal coli-aerogenes flora of soils from various geographical areas. J. Appl. Bacteriol., 25:87-93.1962.
- Hartman, P. A. Further studies on the selectivity of violet red bile agar. J. Milk and Food Technol., 23:45-48.1960.
- Kereluk, K., and Gunderson, M. F. Studies on the bacteriological quality of frozen meat pies. J. Milk and Food Technol., 22:176-179.1959.
- Machala, W. E. A bacteriological investigation of frozen foods in the Oklahoma City area. J. Milk and Food Technol., 24:323-327.1961.
- MacKenzie, E.F.W., Taylor, E. W., and Gilbert, W. E. Recent experiences in the rapid identification of bacterium coli type I. J. Gen. Microbiol., 2:197-204.1948.
- Mossel, D. A. A. The presumptive enumeration of lactose negative as well as lactose positive Enterobacteriaceae in foods. Appl. Microbiol., 5:379-381.1957.
- Mundt, J. O., Shuey, G. A., and McCarty, I. C. The coliform bacteria of strawberries. J. Milk and Food Technol., 17:362-365.1954.
- Papavassiliou, J. The rapid identification of *Escherichia coli* I by the production at 44°C of both indole and gas from lactose. J. Appl. Bacteriol., 21:104-108.1958.

PROGRESS REPORT ON THE NATIONAL LABELING COMMITTEE

M. W. JEFFERSON¹

*Dairy Division, Department of Agriculture
Richmond, Virginia*

For the record and in the interest of clarification of the origin of the National Labeling Committee, it should be repeated that the idea originated with members of the International Association of Milk and Food Sanitarians. Further, the work of developing the basic structure and details was carried on by the Committee on Ordinances and Regulations of IAMFS at the request of this Association's Executive Board. This work began in 1958 and was culminated at the meeting of the National Labeling Committee in Atlanta, Georgia, June 15, 1962, at which time officers were elected and the By-laws adopted.

The objectives, organization and implementation of the National Advisory Committee on Coordination of Definitions, Standards, and Labeling Requirements for Dairy Products have been previously published (see *J. Milk and Food Technol.* 25:250.1962). Reprints of this article are available for anyone desiring copies. The origin of the idea and the steps taken to develop it are also detailed.

Briefly, the need for uniformity was established and agreed upon through panel discussions and investigations. At the 1959 business meeting of IAMFS a resolution was adopted by the membership requesting that the problem be explored further, that the appropriate agencies be consulted and a plan developed which would utilize and coordinate the work for the purpose of developing and promulgating: (a) Uniform labeling practices for milk and dairy products; (b) uniform definitions and standards of identity for milk and dairy products, where this appears desirable in the judgment of the groups concerned; and (c) commonly accepted designations and nomenclature for milk and dairy products with the intent of securing broad general acceptance thereof by federal, state and local regulatory authorities and in some cases, segments of the industry.

The objectives of the plan and program were outlined to the federal agencies involved. Cooperation and assistance for the project was assured. The Committee on Ordinances and Regulations then sponsored a meeting of representatives from 20 national and international associations and three federal agencies in Chicago in October, 1960. The 3-A Sanitary Standards Committee idea received favorable support. The group assembled in Chicago expressed

strong feelings in regard to the actual work required to carry out the objectives and functions of such a project. It was generally conceded that it would require more than the time and effort of a voluntary organization depending on voluntary help to implement the program. Financial support was considered to be a necessity. Dr. A. C. Dahlberg was asked to serve as Temporary Chairman, and Mr. Ernest Kellogg was asked to serve as Temporary Secretary.

A Subcommittee on Organization was appointed. This Subcommittee developed By-laws for the organization and functioning of the Committee. A Finance Committee headed by Mr. William V. Hickey of the Paper Cup and Container Institute, Inc. and Past President of IAMFS, successfully obtained financial support from six national dairy industry groups to give the effort a good start.

From the inception of the idea the Board of Directors of the Dairy Products Improvement Institute (DPII) took a great deal of interest in the project. The objectives of the work coincide with the general purpose of the Institute which is to work toward elimination of costly duplication and conflict in sanitary regulations. Dr. Dahlberg and the office staff of DPII spent much time and effort on this project during the period of organization. In February, 1962, the Institute Board agreed to use its office as headquarters for the operation and to permit its Executive Secretary to do the work as directed by the National Labeling Committee. Someone experienced in regulatory work was needed to carry out the detailed work of the Committee. Mr. Harold J. Barnum, Chief Milk Sanitarian for the City of Denver, Colorado, was employed as Executive Secretary of the Institute. He is on leave of absence from the Denver Health Department for a year.

Representatives of 14 national and international professional and dairy industry associations named representatives to the Committee. Three U. S. Government agencies named representatives to serve in an advisory capacity. They are the Food and Drug Administration, the Department of Agriculture, and the Public Health Service. The first meeting of the Committee was held in Atlanta, Georgia, June 15, 1962. Officers elected were as follows: M. W. Jefferson, *Chairman*; Shelby Johnson, *Vice Chairman*; Harold J. Barnum, *Secretary*; and Ernest Kellogg, *Treasurer*. The following organizations are represented on the Committee:

¹*Chairman*, National Advisory Committee on Coordination of Definitions, Standards, and Labeling Requirements for Dairy Products.

American Dairy Science Association
 American Public Health Association, Inc.
 Association of Food and Drug Officials of the United States
 Association of State and Territorial Health Officers
 Dairy Products Improvement Institute, Inc.
 International Association of Ice Cream Manufacturers
 International Association of Milk and Food Sanitarians, Inc.
 Milk Industry Foundation
 National Association of Sanitary Milk Bottle Closure
 Manufacturers
 National Association of State Departments of Agriculture-
 Dairy Division
 National Conference on Interstate Milk Shipments
 Northeast Dairy Labeling Council (Regional Committee)
 Paper Cup and Container Institute, Inc.
 Suppliers of Single Service Milk Containers and Milk
 Ingredients
 U. S. Department of Agriculture (Advisory)
 U. S. Food and Drug Administration (Advisory)
 U. S. Public Health Service (Advisory)

According to the By-laws, the purpose of the Committee is as follows:

"The purpose of the National Labeling Committee shall be to promote the voluntary adoption and implementation of uniform definitions, standards and required labeling information for dairy products by local, state and federal regulatory agencies and to aid in resolving conflicting interpretations thereof, wherever it appears that such activity will (a) promote honesty and fair dealing in the interest of the consumers; (b) assist regulatory agencies (as herein defined) in the proper carrying out of their responsibilities in the public interest; and (c) assist dairy products processors, manufacturers and distributors by the elimination of multiple conflicting requirements which impair the free movement and distribution of dairy products."

There are three groups of members. There is a provision in the By-laws similar to the 3-A Sanitary Standards Committees which provides for participation in committee activities and other matters. The concurrence of these groups shall be required in order to establish the position of the National Labeling Committee with respect to such matters.

The work of the Committee and particularly the work of the Secretary since June 15, 1962, has been directed toward informing all local, state and federal regulatory agencies of the purpose, objectives and structure of the Committee. Information and suggestions regarding the implementation of the Committee's work were requested. Considerable time has also been spent in investigating ways and means of organizing regional committees. This educational and investigational work was done through several meetings with regulatory groups and by mail.

Specifically the National Labeling Committee can provide these services:

1. Develop guidelines and a uniform understanding nationally of the basic principles of labeling as they affect the consumer, regulatory agency and processor.
2. Assemble the individual and collective thinking of local, state and federal regulatory agencies in regard to labeling requirements and interpretations of dairy products, and coordinate this material into guidelines which regulatory and industry people can use in evaluating compliance with labeling requirements.
3. Make available to federal agencies the results of research and deliberations in order that these results may be used as a guide in revising and bringing up to date that agency's recommended interpretations relative to dairy products labeling.

REPORT OF THE 3-A SANITARY STANDARDS SYMBOL ADMINISTRATIVE COUNCIL

AUGUST, 1961-OCTOBER, 1962

A report on the status and activities of the 3-A Symbol Council is a regular feature of Annual Business Meetings, because this Association is one of the three members of the Council, the others being The Dairy Industries Supply Association and the Dairy Industry Committee.

The Council was organized to provide for the use of the 3-A Symbol, and to control its misuse. Control is exercised by issuing serially-numbered authorizations, which are renewable annually, and which are amendable to provide for modifications in model designation listings.

The policies of the Council are set forth in a set of By-Laws, a copy of which is on file with the Executive Board of the Association, and which provides for an eight-member Board of Trustees, of which four, appointed by the Executive Board, represent this Association.

The day-to-day activities of the Council are conducted by the Secretary-Treasurer, with the advice and counsel of the Chairman of the Board of Trustees and, on occasion, based upon the result of mail ballots on questions submitted to Trustees between meetings of the Board.

The first authorizations to use the 3-A symbol were issued on May 1, 1956. During the succeeding 6½ years a total of 137 consecutively numbered authorizations have been issued. Most have been renewed upon or prior to expiration (after twelve months), and many have been amended to cover additional models. A few authorizations have been transferred without change of serial number, but only twenty have been relinquished, in several instances due to the merging of the concern holding the authorization with another authorization-holding concern, or because of the shift to

fabrication of other types of equipment, or to discontinuation of operations.

The numbers of authorizations currently valid, for the specific types of dairy equipment named, are as follows:

TYPE OF EQUIPMENT	AUTHORIZATIONS
Storage tanks	20
Pumps (rotary)	8
Homogenizers	3
Automotive transport tanks	19
Electric motors	1
Fittings (Piping and equipment)	10
Fittings (Thermometer)	1
Filters	1
Heat exchangers (plate-type)	8
Heat exchangers (return tubular)	2
Farm cooling and holding tanks	27
Leak-detector valves	4
Manually-operated dispensers	5
Evaporators and vacuum pans	6
Fillers and sealers of single service containers	2
Total	117

As has been reported in more detail to the Executive Board, the 3-A Symbol Council is in sound financial condition, with fluid assets adequate to meet any legal contingency. This, to some extent, may be due to the fact that it pays no rent and no salaries.

For the third time, in 1962, the Council has made available to the Dairy Industries Supply Association a complete list of the holders of authorizations, for each type of equipment covered by 3-A Sanitary Standards, for a printed pamphlet to be included as an insert in the catalog of its biennial Dairy Equipment Exposition. It is to be noted, however, that the 1962 list was closed on October 15, 1962, and therefore includes the names of no holders of authorizations to use the 3-A symbol on *Fillers and Sealers of Single Service Containers of Milk and Fluid Milk products*, although two

such authorizations have been issued subsequent to that date.

Although a respectable proportion of the correspondence of the Council consists of replies to inquiries concerning the procedure for obtaining authorizations to use the 3-A symbol, and concerning interpretations or applications of specific provisions of 3-A Sanitary Standards, very few reports of misuse of the symbol have been received since the 1961 Report was made at Des Moines. In one instance a manufacturer's design of a feature of a custom-built unit of equipment violated a principle of sanitation which, however, is not covered by the 3-A Sanitary Standards which pertain. Nevertheless, the construction has been modified by the manufacturer. The sudden demand for "silo" storage tanks resulted in the inadvertent placing of 3-A symbols on several such tanks which did not conform to 3-A Sanitary Standards. In every instance called to the attention of the fabricators involved, the symbol has been or will be removed.

The Board of Trustees of the 3-A Symbol Council was organized in the Spring of 1955. To date the representation of this Association on the Board of Trustees has remained intact, due to the reappointments of Trustees as their two-year terms expired. I have now, however, the depressing task of announcing the resignation of Trustee Mark D. Howlett, Jr. of San Marino, California, due to ill health. He has served the Association and the 3-A Symbol Council well as a Trustee. His sound counsel will be missed.

It is recommended that the Secretary-Treasurer, in acknowledging receipt of this resignation, express the appreciation of the Association for the years of service rendered by Mr. Howlett, both to the Committee on Sanitary Procedure, and to the 3-A Sanitary Standards Symbol Administrative Council.

International Association Of Milk And Food Sanitarians

Committee Reports

PRESENTED AT 49TH ANNUAL MEETING
OCTOBER 24-27, PHILADELPHIA, PENNSYLVANIA

REPORT OF THE COMMITTEE ON SANITARY PROCEDURES—1962

This is the first annual report to be submitted by the new chairman. The retiring chairman was prevailed upon to remain active on the committee as its Co-chairman.

The following new members have been added to the committee in an effort to improve its objectivity, technical depth and geographical coverage. Each has proven to be ready, willing and able. The newly appointed members are: Pat Dolan, Kenneth Carl, Harold Irvin and R. L. Sanders. At the one meeting held this year, it is worthy to note that 13 of the 18-member committee were not only in attendance, but all contributed to the success of the deliberations.

Announcement was made at the Madison meeting that John D. Faulkner and Lee Houser would no longer represent the USPHS in our joint deliberations, and that in the future,

USPHS would be represented by E. L. Ruppert and I. H. Schlafman.

MADISON MEETING — APRIL 3, 4, 5, 1962

New standards concluded

Signatures were affixed to two standards, thus making worthwhile the efforts of all the 3-A Committee activities relative to these two standards. These two standards are to become effective in April 1963, and are titled as follows:

1. *3-A Sanitary Standards for Multiple-Use Rubber and Rubber-Like Materials Used as Product Contact Surfaces in Dairy Equipment, Serial No. 1800*
2. *3-A Sanitary Standards for Batch and Continuous Freezers for Ice Cream, Ices and Similarly-Frozen Dairy Foods, Serial No. 1900*

Tentative standards studied

The tentative standards for *Equipment for Packaging Frozen Desserts in Single Service Containers* was carefully studied in joint session with USPHS and comments noted for further study by SSS-DIC. The tentative standards for *Equipment for Packaging Cottage Cheese and/or Similar Milk Products* was also studied and notes made for future study by SSS-DIC. There was some discussion concerning the feasibility of combining these two standards to cover "Semi-Fluid Dairy Products" because of their almost parallel verbiage. After counsel with SSS-DIC representatives, it was decided to study both separately and permit SSS-DIC to explore the feasibility more fully. Time permitted study of only a small portion of the tentative standards for *Non-Coil Type Batch Pasteurizers*.

OTHER CONSIDERATIONS

The Committee and USPHS were asked to present their views concerning silo tanks to the entire 3-A group in joint session. Out of this presentation and discussion the following salient points were considered important in any detailed consideration of proposed amendments covering these silo tanks:

- | | |
|------------------------|----------------|
| 1. Agitation | 5. Placement |
| 2. Inspection | 6. Access |
| 3. Mechanical Cleaning | 7. Drainage |
| 4. Venting | 8. Age of Milk |

Task Committees are actively pursuing any problem relative to these points.

COMMITTEE MEMBERS

Dick B. Whitehead, <i>Chairman</i> (Mississippi Ass'n.), Klensade Southern, Miss.	W. K. Jordan, (New York Ass'n.), Cornell University
C. A. Abele, <i>Co-Chairman</i> , (Illinois Ass'n.), The Diversey Corporation	C. K. Luchterhand, (Wisconsin Ass'n.), Wisconsin Health Dept.
D. C. Cleveland, (International Ass'n.), Oklahoma City-County Health Dept.	James A. Meany, (Illinois Ass'n.), Chicago Board of Health
Paul Corash, (New York Ass'n.), New York City Health Dept.	Sam O. Noles, (Florida Ass'n.), Florida Health Dept.
Kenneth Carl, (Oregon Ass'n.), Oregon Dept. of Agr.	Ivan E. Parkin, (Pennsylvania Ass'n.), Penn State University
Pat Dolan, (International Ass'n.), California Dept. of Agr.	Richard M. Parry, (Connecticut Ass'n.), Connecticut Dept. of Agr.
M. R. Fisher, (Missouri Ass'n.), St. Louis Health Dept.	R. L. Sanders, (Iowa Ass'n.), Iowa Dept. of Health
Mark D. Howlett, Jr., (California Ass'n.), Consultant	George H. Steele, (Minnesota Ass'n.), Minnesota Dept. of Agr.
Harold Irvin, (International Ass'n.), Omaha-Douglas Health Dept.	H. L. Thomasson, (Indiana Ass'n.), Ex-Officio

REPORT OF THE COMMITTEE ON ORDINANCES
AND REGULATIONS PERTAINING TO MILK
AND DAIRY PRODUCTS — 1962

Following the 1961 annual meeting of the International Association of Milk and Food Sanitarians the Committee on Ordinances and Regulations Pertaining to Milk and Dairy Products embarked upon a study of its objective, functions, current activities, and future usefulness to the Association. This study was suggested by the Committee and requested, almost simultaneously, by the IAMFS Executive Board.

During the past six years the Committee has been assigned three major projects. These include a study of milk for manufacturing regulations, a study of the proposed New York City Sanitary Code, and the development of a national effort to secure uniform labeling of dairy products. It was felt by the Committee that possibly other projects might have been assigned had the objective been somewhat broader. Consideration was also given to whether or not this Committee should be abolished and projects, such as those listed above, assigned to special committees as the need arises. In view of the foregoing, advice was solicited as to whether:

1. The Committee objective should be changed or expanded;

2. A continuing study of sanitation items should be conducted from the standpoint of possible changes, usefulness of some present requirements, need for additional requirements, etc.;

3. The Committee should be placed on a stand-by basis, taking on only whatever assignments the Executive Board might suggest;

4. The Committee should be abolished and special committees appointed when projects arise.

The consensus and therefore the recommendation of the Committee is that the Committee should be continued and should function as follows:

1. Undertake studies and make recommendations with respect to matters which may be assigned to it from time to time by the Executive Board.

2. Undertake a continuing evaluation of ordinances and regulations and submit such problems as may appear important to the Executive Board along with recommendations as to priority in terms of overall interest and importance, for assignment by the Executive Board to this or other appropriate committees.

3. Request that the purposes of this Committee be broadened to include reviews and studies of ordinances and regulations pertaining to foods, the activities in this respect being limited presently to milk, milk products, and frozen desserts, and further, that the name of committee be changed accordingly. In addition to other food regulations that might be considered, this expansion of the objective would clearly permit an evaluation of regulations pertaining to such products as dietary foods, particularly as such regulations relate to milk and milk products. In respect to this new activity the Committee membership would be realigned to include an appropriate number of food sanitarians, which group could act jointly with the rest of the Committee or separately as a subcommittee as the need arises. Furthermore, it is recommended that the Committee be given the right to make recommendations not only with respect to changes in existing ordinances and regulations, but also with respect to the establishment of new ordinances and regulations where, in the judgment of the Committee, these are needed. The Committee also feels that the term "sanitary" as it appears

in the present statement of the Committee's objectives is extremely limiting and that consideration should be given to its elimination.

4. The Committee further recommends that the membership of the Committee should be rotated so that at least one-third of the members will be replaced each year.

5. Finally, it is suggested that this Committee continue to work closely with the National Labeling Committee and that the representative of the IAMFS serving on that Committee should also be a member of this Committee.

COMMITTEE MEMBERS

Donald H. Race, <i>Chairman</i> , (New York Ass'n.), Dairymen's League Coop Association, Syracuse, N. Y.	State Health Dept., Frankfort, Ky.
C. V. Christianson, (California Ass'n.), Bowman Dairy Co., Chicago, Ill.	C. H. Holcombe, (Minnesota Ass'n.), State Dept. of Agriculture, St. Paul, Minn.
Frank L. Kelley, (Kansas Ass'n.), State Board of Health, Topeka, Kan.	Ed Small, (International Ass'n.), USDA, Washington 25, D. C.
Keith A. Harvey, South Central District Health Dept., Twin Falls, Idaho	Archie B. Freeman, Milk & Food Consultant, USPHS, Region II, New York 5, N. Y.
Dr. Richard M. Parry, (Connecticut Association), Dept. of Agriculture, Hartford, Conn.	Harold J. Barnum, (Rocky Mountain Ass'n.), National Labeling Committee, Ithaca, N. Y.
H. K. Johnston, (International Ass'n.), Division of Milk Sanitation, Dept. of Agriculture, State College, Pa.	K. G. Weckel, (Wisconsin Ass'n.), University of Wisconsin, Madison, Wis.
John F. Speer, (International Ass'n.), IAICM, Washington 6, D. C.	Livingston S. Jennings, National Dairy Products Corp., New York, N. Y.
Louis E. Smith, (Kentucky Ass'n.),	A. E. Reynolds, California Dept. of Agriculture, Sacramento, Calif.

REPORT OF THE COMMITTEE ON COMMUNICABLE DISEASES AFFECTING MAN —1962

The booklet entitled *Procedures for the Investigation of Foodborne Disease Outbreaks* prepared by this committee was published by the Association in 1957. The committee report of 1961 recommended that the booklet be reviewed and that a revision be prepared if such action seemed indicated.

In accordance with this recommendation, the committee has made a preliminary review of the booklet. The following items have been listed by committee members as material that should be added or portions that are in need of revision.

PART I

- a. Page 8—Part 4. Change "Part III" to read "Part II." This change is necessary due to a typographical error.
- b. Include a discussion of the use of the "Fourfold Table" in determining the statistical significance of certain data collected during investigations. This might be added to Page 9 or 10.

PART II

- a. Supplement Part II by summarizing this material in outline form for quick reference by the sanitarian as to what should be done. Keep Part II in the booklet for the details of specimen collection.
- b. Add a paragraph about the special refrigeration requirements of specimens to be examined for *Clostridium perfringens*.
- c. Page 14 - Part 7. To insure rapid safe delivery to the laboratory add to the labeling instructions the words "Air Mail - Special Delivery." "Parcel Post - Personal Delivery."
- d. Add a paragraph listing desirable equipment and supplies that would form the basis of a kit that the sanitarian could take along when going on an investigation of a suspected food poisoning outbreak.

PART III

- a. Page 15 - Change last line, first paragraph to read "Salmonella - Shigella typing facilities."
- b. Add a short paragraph encouraging the phage typing of staphylococci recovered from the food and food handlers when this organism is suspected as the cause of the outbreak.

PART IV (Form A)

- a. Modify Form A (Page 16) by changing the format to place the "Time Food was Eaten" and "Onset of Illness" in such a manner that simple subtraction would give the incubation time.
- b. Indicate on Form A that all foods consumed 48 hours prior to onset should be listed.
- c. Add to Form A a "time" column after food item so that the exact time the various food items were eaten can be listed.
- d. Provide space on Form A for "water source" and "sewage disposition."

PART V

- a. Change *C. welchii* to *C. perfringens*.
- b. Change last item in trichinosis (Measures to Prevent Spread by Food) to agree with latest recommendations of heating to 150° throughout.

Sales of the booklet indicate that there is a need for it and that it is serving a useful purpose. It has been translated into at least one foreign language. The committee believes that it should be kept up to date. The preliminary review of the booklet has resulted in several suggested changes. It appears there is sufficient need for change to warrant revision. Undoubtedly additional study will reveal the need for other modifications. Members of the Association and others who have used the booklet are invited and encouraged to submit suggested changes to the committee. It is recommended that Executive Board approval be given the committee to continue this project during the coming year.

COMMITTEE MEMBERS

Stanley L. Hendricks, *Chr.*,
(Iowa Ass'n.),
State Dept. of Health,
Des Moines 19, Iowa

John Andrews,
(International Ass'n.),
State Board of Health,
Raleigh, North Carolina

Charles Hunter
State Board of Health
Topeka, Kansas

Dwight D. Lichty,
(Florida Ass'n.),
Palm Beach Health Dept.,
West Palm Beach, Florida

E. R. Price,
(Missouri Ass'n.),
Missouri Dept. of
Public Health,
Jefferson City, Missouri

H. L. Bryson,
(International Ass'n.),
Vancouver Health Dept.,
Vancouver, British
Columbia, Canada

F. B. Clack,
Allegheny County
Health Department
Pittsburgh 19, Pennsylvania

John H. Fritz,
(International Ass'n.),
Food Section, USPHS,
Washington 25, D. C.

Calvin E. Sevy,
(International Ass'n.),
Milk & Food Program
USPHS
Washington 25, D. C.

P. N. Traviss,
(International Ass'n.),
Jefferson County
Health Dept.,
Birmingham, Alabama

Committees of the International Association of Milk and Food Sanitarians, Inc. for 1963

COMMITTEE ON APPLIED LABORATORY METHODS

(2 year appointment)

OBJECTIVES

To study new laboratory procedures and bacteriological problems to evaluate both published and unpublished data, and to present conclusions which will be helpful to the sanitarian in the conduct of his work.

MEMBERS

J. J. Jezeski, *Chairman*, Department of Dairy Industries, University of Minnesota, St. Paul 1, Minnesota.

A. R. Brazis, Robert A. Taft Sanitary Engineering Center, 4676 Columbia Parkway, Cincinnati, Ohio.

P. R. Elliker, Oregon State University, Department of Bacteriology, Corvallis, Oregon.

L. G. Harmon, Dairy Department, Michigan State University, East Lansing, Michigan.

B. Heinemann, Producers' Creamery Company, Springfield, Missouri.

J. L. Henderson, 425 Battery Street, Foremost Dairies, San Francisco, California.

A. C. Maack, Swift and Company, Union Stockyards, Chicago 9, Illinois.

J. C. McCaffrey, Illinois Department of Health, 611 Lakeview Terrace, Glen Ellyn, Illinois.

F. E. Nelson, Department of Dairy Science, University of Arizona, Tucson, Arizona.

D. I. Thompson, Wisconsin Laboratory of Hygiene, Madison, Wisconsin.

COMMITTEE ON BAKING INDUSTRY EQUIPMENT

(2 year appointment)

OBJECTIVES

The objectives of this committee are to provide consultative assistance to the Baking Industry Sanitation Standards Committee in the development of standards for items in the baking industry.

MEMBERS

Vincent T. Foley, *Chairman*, Chief of Food, City Health Department, 21st Floor, City Hall, Kansas 6, Missouri.

A. E. Abrahamson, Chief, Wholesale Division, City Health Department, 125 Worth Street, New York 13, New York.

W. R. McLean, Associate Program Director, USPHS, Department of Health, Education and Welfare, Region V, Room 712, 433 W. Van Buren Street, Chicago 7, Illinois.

Lewis W. Pickles, Director, Division of Sanitation, City Health Department, Room 202 City Hall, Peoria, Illinois.

Armin A. Roth, 421 N. Rosevere, Dearborn, Michigan.

Harold Wainess, Wainess and Associates, 510 N. Dearborn, Chicago 10, Illinois.

Louis A. King, Jr., Director, Department of Bakery Sanitation, American Institute of Baking, 400 E. Ontario Street, Chicago 11, Illinois.

Gene McElyea, USPHS, Region V, 433 W. Van Buren Street, Chicago 7, Illinois.

COMMITTEE ON COMMUNICABLE DISEASES AFFECTING MAN (1 year appointment)

OBJECTIVES

To study problems related to those diseases communicable to man through the consumption of foods, including milk and milk products, meat, poultry, and shellfish, and to recommend specific measures that can be taken by the sanitarian to control such diseases.

MEMBERS

Stanley L. Hendricks, *Chairman*, Assistant Director, Preventable Disease Division, State Department of Health, State Office Building, Des Moines 19, Iowa.

P. N. Travis, Supervisor, Milk Sanitation, Jefferson County Health Department, Post Office Box 2591, Birmingham, Alabama.

John Andrews, Chief, Sanitation Section, Sanitary Engineering Section, State Board of Health, Raleigh, North Carolina.

Calvin E. Sevy, Staff Veterinarian, Milk and Food Program, EEFP, Department of Health, Education and Welfare Building, South, Room 4123, Washington, D. C.

H. L. Bryson, Director, Environmental Sanitation Division, Vancouver Health Department, 456 West Broadway, Vancouver, British Columbia, Canada.

Dwight D. Lickty, Public Health Veterinarian, Post Office Box 29, West Palm Beach, Florida.

E. R. Price, Director, Bureau of Veterinary Public Health, Missouri Department of Public Health and Welfare, State Office Building, Jefferson City, Missouri.

Charles Hunter, Public Health Laboratories, National Reserve Building, Topeka, Kansas.

Robert K. Anderson, Professor of Bacteriology and Public Health, School of Veterinary Medicine, University of Minnesota, St. Paul 1, Minnesota.

COMMITTEE ON DAIRY FARM METHODS (1 year appointment)

OBJECTIVES

To study dairy farm methods and procedures, to determine the sanitary problems involved, and to make recommendations for the solution of such sanitary problems, and for the improvement of dairy farm methods which have a relationship to the sanitary quality of milk.

MEMBERS

A. K. Saunders, *Chairman*, Post Office Box 666, Mundelein, Illinois.

R. W. Metzger, Director of Quality Control, Dairyman's League Cooperative Association, Inc., 402 Park Street, Syracuse, New York.

Chester F. Bletch, Maryland and Virginia Milk Producers Association, Inc., 1530 Wilson Boulevard, Arlington 9, Virginia.

James B. Smathers, Maryland and Virginia Milk Producers Association, Inc., 1530 Wilson Boulevard, Arlington 9, Virginia. (Alternate to Bletch)

J. C. Flake, Evaporated Milk Association, 228 N. LaSalle, Chicago 1, Illinois.

A. E. Parker, Chief, Milk Section, City of Portland Health Department, Portland, Oregon.

Milton E. Held, 910 Upper Lupin Way, San Carlos, California.

M. W. Jefferson, Chief, Dairy Products, Sanitation Section, 1308 Franklin Street, Richmond 19, Virginia.

William McCorquodale, 409 Huron Street, Toronto, Ontario, Canada.

Elmer Kihlstrun, Johnson and Johnson, Filter Products Division, 4949 West 65th Street, Chicago 38, Illinois.

R. P. March, Associate Professor, Dairy Industry Department, Cornell University, Ithaca, New York.

Richard M. Martin, Sanitarian In Charge Of Milk Sanitation, Ohio Department of Health, 306 Ohio Departments Building, Columbus 15, Ohio.

Mike O'Conner, Seattle-King County Milk Division, 425 South Garden, Bellingham, Washington.

Harry F. Stone, Milk Control Section, Department of Public Health, St. Louis 3, Missouri.

Vernon Nickel, 416 10th Street, Crystal City, Missouri.

William Trobaugh, Milk Sanitation Section, City-County Department of Health and Hospitals, 659 Cherokee Street, Denver 4, Colorado.

Clarence C. Gehrman, Area Supervisor, Department of Agriculture, Olympia, Washington.

William Nasson, Chief of Milk Section, San Francisco, Health Department, San Francisco, California.

Dr. George D. Coffee, Division of Milk and Veterinary, District of Columbia, Department of Public Health, 300 Indiana Avenue, N.W., Washington 1, D. C.

Dr. R. M. Parry, Chief, Dairy Division, Department of Agriculture, State of Connecticut, Hartford 13, Connecticut.

Burdette Fisher, Kyanna Cooperative Milk Producers Association, Louisville, Kentucky.

I. E. Parkin, Dairy Specialist, College of Agriculture, Pennsylvania State University, University Park, Pennsylvania.

Alexander A. Pais, Supervisor of Milk Sanitation, 2411 North Charles Street, Baltimore, Maryland.

Stephen B. Spencer, Extension Dairyman, Pennsylvania State University, University Park, Pennsylvania.

Roy Stein, Department of Dairy Science, Oregon State University, Corvallis, Oregon.

Henry Atherton, Dairy Science Department, University of Vermont, Burlington, Vermont.

John Dean, Dean Milk Company, Rockford, Illinois.

Ethan Rasmussen, Iowa-Nebraska Milk Producers Association, Omaha, Nebraska.

Lyman C. Knierem, Jr., L and K Quality Service, 2644 McCoy Way, Louisville, Kentucky.

Herman Schmidt, Hoard's Creameries, Fort Atkinson, Wisconsin.

T. A. Evans, Dairy Extension, College of Agriculture, University of Nebraska, Lincoln 3, Nebraska.

Norman Taylor, Rhode Island Association of Dairy and Food Sanitarians, Box 22, Warwick, Rhode Island.

Douglas J. Norton, Dairy Division, The DeLaval Separator Company, Poughkeepsie, New York.

COMMITTEE ON EDUCATION AND PROFESSIONAL DEVELOPMENT

(1 year appointment)

OBJECTIVES

First, to develop plans to devise methods whereby the Sanitarian can more fully gain recognition as a professional worker in public health, and secondly, to recommend standards of education, training and experience designed to establish desirable professional qualifications to the end that the title Sanitarian will denote adequate preparation for professional work and attainment.

MEMBERS

Sumner Morrison, *Chairman*, Department of Pathology and Bacteriology, College of Veterinary Medicine, Colorado State University, Fort Collins, Colorado.

Darold Taylor, Chief, Milk Certification, Milk Sanitation Section, Milk and Food Program, USPHS, Washington, D. C.

W. Howard Brown, Director, Food and Laboratory Division, Department of Public Health, 940 Main Street, Jacksonville, Florida.

Russell B. Cunningham, 1208 Riley Court, LaPorte, Indiana.

Gilbert L. Kelso, 104 Carr Street, Chapel Hill, North Carolina.

John Patillo, 3025 Columbia Street, Richmond 34, Virginia.

Richard Mansfield, 504 Woodland Drive, Clinton, Tennessee.

Howard H. Johnston, 1241 Boalsburg Road, State College, Pennsylvania.

Thomas McLaughlin, Manager, Institutions Division, Klenzade Products, Inc., Post Office Box 1020, Beloit, Wisconsin.

Guy P. Stephens, Supervisor of Dairying, State Department of Agriculture, 412A State Capitol Building, Salt Lake City, Utah.

M. P. Baker, Department of Dairy and Food Industry, Iowa State University, Ames, Iowa.

Raymond Summerlin, 3141 Toney Drive, Decatur, Georgia.

L. Wayne Brown, 421 Chemistry Building, University of Wisconsin, Madison, Wisconsin.

Harold S. Adams, Department of Public Health, Indiana University Medical School, 1100 West Michigan Street, Indianapolis Indiana.

Richard E. Stedman, State Department of Health, Des Moines 19, Iowa.

COMMITTEE ON ENVIRONMENTAL HEALTH PROGRAMS

(1 year appointment)

OBJECTIVES

To study conditions and practices, to work with other groups in the development of standards, recommended practices, manuals, etc., and to develop program needs in the following areas (other than Milk and Food) which includes: Housing, Hospital and Institutional Sanitation, Water Supply, Sewerage Systems, Air Pollution, Swimming Pools, Accident Prevention, Vector Control, Radiation, Insecticides, Pest-Rodenticides and Fumigants.

MEMBERS

Harold B. Robinson, *Chairman*, Department of Health, Education and Welfare, USPHS, 330 Independence Avenue, S.W., Washington, D. C.

H. R. Davis, Mississippi State Board of Health, Jackson, Mississippi.

Richard Clapp, Community Services Training Section, Training Branch, Communicable Disease Center, Atlanta 22, Georgia.

Cameron Adams, Department of Agriculture, Dairy and Food Division, Post Office Box 120, Olympia, Washington.

James Barringer, 1703 Oneida Street, Joliet, Illinois.

John B. Drake, Senior Licensing Consultant, Hospitals and Nursing Homes Section, State Department of Health, Seattle, Washington.

Maxwell Wilcomb, Professor of Sanitary Science, University of Oklahoma, Norman, Oklahoma.

Arthur E. Williamson, Director, Environmental Sanitation, State Health Department, Cheyenne, Wyoming.

John J. Sheuring, Department of Dairying, University of Georgia, Athens, Georgia.

Alfred L. Klatte, Director, Bureau of Environmental Sanitation, Division of Public Health, Health and Hospital Corporation, Marion County, Indianapolis, Indiana.

Paul Rankin, Department of County Health Administration, Mississippi State Board of Health, Jackson, Mississippi.

COMMITTEE ON FOOD EQUIPMENT

(2 year appointment)

OBJECTIVES

To participate with other health organizations and industries in the formulation of sanitary standards and educational materials and to represent the International Association specifically with (a) National Sanitation Foundation, (b) Automatic Merchandising Health Industry Council, and (c) when directed by the Executive Board, to cooperate with other health and industry groups on food equipment sanitary guides. To present to the membership at the Annual Meeting those standards or other materials which the Committee recommends be endorsed or approved by the Association.

MEMBERS

Karl K. Jones, *Chairman*, Retail Food Section, Division of Food and Drugs, Indiana State Board of Health, 1330 West Michigan Street, Indianapolis 7, Indiana.

James W. Bell, National Canners Association, 1133 20th Street, N.W., Washington 6, D. C.

Martin C. Donovan, Dade County Department of Public Health, 1350 N.W. 14th Street, Miami 35, Florida.

J. Schoenberger, Supervisor of Equipment Section, City Department of Health, 125 Worth Street, New York 13, New York.

Eaton E. Smith, Chief, Food Division, Department of Consumer Protection, Food and Drug Commission, State Office Building, Hartford 15, Connecticut.

R. L. Cooper, Administrative Assistant, Calloway County Health Department, Murray, Kentucky.

Edward J. Puscus, Director of Sanitation, Oak Ridge Health Department, Municipal Building, Oak Ridge, Tennessee.

Harold Wainess, Wainess and Associates, 510 N. Dearborn Street, Chicago, Illinois.

COMMITTEE ON FROZEN FOOD SANITATION

(2 year appointment)

OBJECTIVES

To study conditions and practices within the frozen food industry, to determine the sanitary problems involved which might contribute to a public health hazard, and to make recommendations for the solution of such problems.

MEMBERS

Frank E. Fisher, *Chairman*, Division of Food and Drugs, Indiana State Board of Health, 1330 West Michigan Street, Indianapolis, Indiana.

Glen C. Slocum, Director, Division of Microbiology, Bureau of Biological and Physical Sciences, Food and Drug Administration, Washington 25, D. C.

H. P. Schmitt, Research Director, National Association of Frozen Food Packers, 919 18th Street, Washington, D. C.

G. L. Hays, Bacteriological Group, American Can Company, Central Division, 11th Avenue and St. Charles Road, Maywood, Illinois.

Eaton E. Smith, Food Division, Department of Consumer Protection, Food and Drug Commission, State Office Building, Hartford, Connecticut.

A. C. Leggatt, Department of Dairy Science, Ontario Agricultural College, Guelph, Ontario, Canada.

J. L. Adame, Division of Environmental Health and Safety, University of California, Riverside, California.

George E. Prime, Assistant Chief, Food Sanitation Section, Milk and Food Program, Public Health Service, Washington 25, D. C.

COMMITTEE ON MEMBERSHIP

(1 year appointment)

OBJECTIVES

To make every effort to increase the membership of the organization by bringing to the attention of all qualified persons the advantages of belonging to the International Association of Milk and Food Sanitarians, Inc., and to interest state milk and food sanitarians' organizations in the advantages of affiliation with the Association.

MEMBERS

Harold Wainess, *Chairman*, Wainess and Associates, 510 N. Dearborn, Chicago 10, Illinois.

John H. Fritz, Milk and Food Program, EEFP, Department of Health, Education and Welfare, Washington, D. C.

Karl K. Jones, Chief, Retail Food Section, Division of Food and Drugs, Indiana State Board of Health, 1330 West Michigan Street, Indianapolis 7, Indiana.

COMMITTEE ON ORDINANCES AND REGULATIONS PERTAINING TO MILK AND DAIRY PRODUCTS

(1 year appointment)

OBJECTIVES

To review and study the provision of sanitary ordinances and regulations pertaining to milk, and dairy products, to evaluate data on research findings relative to the sanitary and public health significance of the specific requirements of ordinances and regulations, and to prepare for submission to the members of the Association, recommendations for changes in existing ordinances and regulations.

MEMBERS

Donald H. Race, *Chairman*, Dairymen's League Cooperative Association, Inc., Quality Control, 402 Park Street, Syracuse, New York.

C. V. Christianson, Director of Laboratories, Bowman Dairy Company, 140 West Ontario Street, Chicago, Illinois.

A. B. Freeman, Milk and Food Consultant, Public Health Service, U. S. Department of Health, Education and Welfare, Region II, 42 Broadway, New York 5, New York.

K. A. Harvey, District Supervising Sanitarian, South Central District Health Department, 309 Second Avenue, East, Twin Falls, Idaho.

Howard K. Johnston, Principal Sanitarian, Division of Milk Sanitation, Bureau of Foods and Chemistry, Department of Agriculture, 1241 Old Boalsburg Road, State College, Pennsylvania.

Frank L. Kelley, Kansas State Board of Health, Food and

Drug Division, State Office Building, Topeka, Kansas.

David Monk, Sanitarian, Wichita-Sedgwick County Health Department, 1900 East 9th Street, Wichita, Kansas.

R. M. Parry, Chief, Dairy Division, Department of Agriculture, State of Connecticut, Hartford 15, Connecticut.

A. E. Reynolds, California Department of Agriculture, 1220 N Street, Sacramento 14, California.

Louis Smith, Kentucky State Health Department, 275 East Main Street, Frankfort, Kentucky.

Livingston Jennings, National Dairy Products Corporation, 260 Madison Avenue, New York 16, New York.

Ed Small, Standardization and Program Development Bureau, Agricultural Marketing Service, U. S. Department of Agriculture, Washington, D. C.

John F. Speer, Jr., International Association of Ice Cream Manufacturers, 1105 Barr Building, 810 17th Street, N.W., Washington 6, D.C.

Stephen J. Wolff, Pevely Dairy Company, 1001 South Grand Boulevard, St. Louis 4, Missouri.

COMMITTEE ON RECOGNITION AND AWARDS

(1 year appointment)

OBJECTIVES

This committee is charged with the responsibility of implementing those objectives of the Association concerned with (1) recognition of individual milk, food and environmental sanitarians whose achievements have contributed greatly to the public health and welfare of their communities, and (2) recognition of those members of the Association who have, through distinguished service, contributed greatly to the professional advancement and growth and reputation of the International Association of Milk and Food Sanitarians, Inc.

The Committee receives and reviews nominations for the annual Sanitarian's Award, and has full responsibility for the selection of the recipient. The Committee also receives and reviews recommendation on candidates for the annual Citation Awards, and counsels with the Executive Board relative to the selection of the recipients. It is also responsible for handling all matters pertaining to the presentation of awards, publicity and other related items.

MEMBERS

John J. Sheuring, *Chairman*, Dairying Department, University of Georgia, Athens, Georgia.

Paul Elliker, Department of Microbiology, Oregon State College, Corvallis, Oregon.

Faegen Parrish, Georgia Health Department, 47 Trinity Avenue, Atlanta, Georgia.

Shelby Johnson, Director, Food and Drugs, Kentucky State Health Department, Frankfort, Kentucky.

Frank Kelley, Kansas State Board of Health, Food and Drug Division, State Office Building, Topeka, Kansas.

Charles E. Walton, City Health Department, Laramie, Wyoming.

COMMITTEE ON SANITARY PROCEDURES

(2 year appointment)

OBJECTIVES

To participate jointly with the Sanitary Standards Subcommittee of the Dairy Industry Committee and the Milk and Food Branch, U. S. Public Health Service, in the formulation of 3-A Sanitary Standards for dairy equipment. Specifically, the functions of this committee are: (1) to receive, consider,

and comment on proposed sanitation standards for dairy equipment submitted by the Dairy Standards Subcommittee; (2) to bring to the attention of the Sanitary Standards Subcommittee items of dairy industry equipment and methods for which formulation of sanitary standards appear desirable; and (3) to cooperate with the Dairy Industry Committee, the U. S. Public Health Service, and health officials in attaining universal acceptance of the sanitary standards upon which mutual agreement has been reached.

MEMBERS

D. B. Whitehead, *Chairman*, 4886 Woodmont Drive, Jackson, Mississippi.

C. A. Abele, *Co-Chairman*, 2617 Hartzell Street, Evanston, Illinois.

D. C. Cleveland, *Director*, Dairy and Food Division, Oklahoma City-County Board of Health, Room 505, Municipal Building, Oklahoma City, Oklahoma.

M. R. Fisher, *Director*, Milk Section, Department of Health, Room 11, Municipal Courts Building, St. Louis, Missouri.

Pat Dolan, 4009 Cayente Way, Sacramento 25, California.

Kenneth Carl, *Chief*, Dairy and Consumer Service Division,

Oregon Department of Agriculture, Salem, Oregon.

W. K. Jordan, *Associate Professor*, Department of Dairy and Food Service, Cornell University, Ithaca, New York.

Harold Irvin, *Omaha-Douglas Health Department*, 1201 South 42nd Street, Omaha, Nebraska.

C. K. Luchterhand, 240 City-County Building, Madison, Wisconsin.

James A. Meany, 8948 South Laflin Street, Chicago 20, Illinois.

Samuel O. Noles, *State Milk Consultant*, State Board of Health, Post Office Box 210, Jacksonville, Florida.

R. L. Sanders, *Engineering Division*, State Department of Health, State Office Building, Des Moines 19, Iowa.

Richard M. Parry, *Chief*, Dairy Division, State Department of Agriculture, State Office Building, Hartford 15, Connecticut.

George H. Steele, *Assistant Director*, Agriculture Products Inspection, Department of Agriculture, 515 State Office Building, St. Paul, Minnesota.

I. E. Parkin, 213 Borland Laboratory, Pennsylvania State University, University Park, Pennsylvania.

H. L. Thomasson, *Ex-Officio*, Box 437, Shelbyville, Indiana.

SPECIAL FEATURE

OUR HERITAGE — 50 YEARS IN RETROSPECT¹

The First Decade 1912-1921

C. A. ABELE²
DIVERSEY CORPORATION
CHICAGO, ILLINOIS

Past-President C. A. Abele is a long-time member of International and has devoted his life's work to public health and sanitation. Mr. Abele's name first appears on the rolls of the International in 1923. The Association was, at that time, known as the International Association of Dairy and Milk Inspectors.

Mr. Abele, a native of Pennsylvania, received his bachelor of science in chemical engineering (B.S.Ch.E.) in 1914 from the University of Alabama. He later did post graduate work during the 1916-1917 session at Massachusetts Institute of Technology. In the interim period, he was employed as a sanitary inspector with the U. S. Steel Corporation.

From the Fall of 1917 until the early summer of 1918, he worked with the American Red Cross — Extra Cantonment Service. Since that time, he has held the following positions: Scientific Assistant, USPHS; July, 1918 to October, 1919; Director, Bureau of Inspection, State Health Department, Alabama, which he held from 1919 to 1940; Director, Country Dairy Section, Chicago Board of Health; Director of Public Health Research, The Diversey Corporation, where he is currently employed.

Those who have in the past and are now associated with Mr. Abele are fully aware of his keen interest in

and professional participation in the field of public health. He has served in leadership capacities with various organizations and associations, among which are: American Public Health Association, a Life Fellow; Chairman of Committee on Sanitary Procedures IAMFS, 1941 through 1961; Member of 3-A Symbol Council; Chicago Dairy Technology Society, President, 1947; American Dairy Science Association; and Associate Illinois Milk Sanitarians, President, 1955.

Acceptance of the assignment to review the initial decade of the life of this Association has afforded me the rare privilege of reading at leisure the ten Annual Reports covering the Annual Meetings, 1912 through 1921, including all of the papers presented at those meetings. These have been so revealing of the status of milk quality control and of the steps in the development of milk sanitation, frequently initiated by leaders or members of this Association during its early days, that it is extremely difficult to distinguish between the history of the affairs of the Association, and that of milk sanitation.

With respect to affairs of the Association and the development of milk sanitation during the first decade, I shall devote a little time to one, and some to the other.

The Report of the First Annual Meeting in Mil-

¹The first of a series of reports covering each of the five decades of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC.

²President of IAMFS 1943-1944

waukee, October 25-26, 1912, includes no reference to the organization meeting in early October, 1911. Dr. J. H. Shrader, in his historical review — "The International Association of Milk and Food Sanitarians, Inc.; Its accomplishments and Aims" (J. Milk and Food Technol., May-June, 1948), and "The International Association of Milk and Food Sanitarians, Inc.; Its Youth, Adolescence, and Maturity" (J. Milk and Food Technol., Sept. 1957)—in both papers states: ". . . thirty-five men from Australia, Canada, and the United States met in Milwaukee to organize the INTERNATIONAL ASSOCIATION OF DAIRY AND MILK INSPECTORS."

In the earlier publication he fixed the date as October, 1911, and in the second as October 25-26, 1912. The latter were the dates of the initial Annual Meeting.

In his Presidential Address at the Second Annual Meeting, held in connection with the National Dairy Show, in Chicago, October 24-25, 1913, President C. J. Steffen made the following statement:

"Two years ago men met in Milwaukee and laid the foundation of this organization. What they lacked in number they made up in enthusiasm. The incentive they had was the need, which they could plainly see, for such an organization. The spirit which animated them was the necessity of welding into one body the thought and the ability now possessed by men engaged in dairy and milk inspection, for the purpose of awakening in them a feeling of brotherly interest, for the purpose of elevating the standard of inspection by means of uniform methods, and to encourage inspection by men best qualified for the work."

That initial paragraph of Mr. Steffen's Presidential Address, at the 1913 Annual Meeting, paraphrases the objective of the Association set forth in its Constitution which, incidentally, was adopted October 16, 1911, presumably by the seven who met in Milwaukee.

The Reports of Annual Meetings were published at some time during the intervals between meetings. The lists of members presented in the Reports in all probability included the names of those accepted up to the time of publication. In the first Report the list of members does include 35 names, as Shrader stated, but the financial report of the Secretary-Treasurer, covering receipts and expenditures prior to October 25-26, 1912, showed an income of \$70, all from membership dues, which (at \$5.00 each) accounted for fourteen members. That Annual Meeting program presented thirteen speakers, all of whom were not necessarily members; some attendants may have become members during the meeting.²

Membership in the Association was restricted by the Constitution to:

"men who now are, or have been, actively engaged in dairy or milk inspection. Any person who now is or

has been so engaged may make application to the Secretary-Treasurer; and, if application is accepted by the Membership Committee, said applicant may become a member of the Association upon payment of the annual dues of five dollars (\$5.00)."

²An effort was made to ascertain the facts of this historic meeting, who constituted the original seven, by addressing an inquiry to Doctor William H. Price, which has remained unanswered. Later information is to the effect that Dr. Price has been hospitalized.

From the seven gathered at Milwaukee in October, 1911, the paidup membership increased to 105 at the time the manuscript of the Tenth Annual Report (covering the 1921 Annual Meeting) was sent to the printer.

Proposed By-Laws were presented and read at the 1913 Annual Meeting, and adopted during the 1914 meeting. They provided for the following officers: President, First, Second, and Third Vice-President; Secretary-Treasurer; and two Auditors, to be elected by ballot during the business sessions at Annual Meetings. One-fourth of the total membership constitute a quorum for business meetings. All officers, except the Auditors, constituted the Executive Board, and it was declared to be the function of the Secretary-Treasurer to develop programs and to make all other arrangements for Annual Meetings. Except for an amendment to the By-Laws adopted October 29, 1915, providing for honorary memberships, both instruments remained unchanged throughout the First Decade.

Eight individuals served as President of the Association during the initial ten years of its existence. C. J. Steffen, who appears to have initiated the concept of an Association, was elected President at the Milwaukee meeting in 1912, was re-elected at Chicago, in 1913, and again re-elected in Chicago 1914. In succession, the following served as Presidents and presided at the Annual Meetings indicated: A. N. Henderson, of Seattle, at Washington, D. C.; Claude F. Bossie, of Omaha (he did not preside at the Springfield, Massachusetts meeting); Dr. William H. Price, of Detroit, at Washington, D. C.; Alfred W. Lombard, of Arlington, Massachusetts, at Chicago; James O. Jordan, of Boston, at New York; Ernest Kelly, of Market Milk Investigations, USDA, at Chicago; and Professor C. L. Roadhouse, of the University of California, Davis, at New York. Ivan C. Weld served as Secretary-Treasurer throughout the decade, and during the remainder of his life.

The program of the First Annual Meeting was devoted largely to reports of the "methods employed and the results obtained in improving the milk supplies" of seven cities: Seattle; Springfield, Massachusetts; Omaha; Topeka; Boston; Detroit and Washington, D. C. A review of the programs of succeeding Annual Meetings makes it obvious that a primary

objective of the Annual Meetings was to hear and discuss committee reports. During the business session of the 1912 Meeting in Milwaukee, the President was requested to appoint committees on Farm Inspection, The Chemical and Bacteriological Inspection of Milk, and the Control of Bovine Tuberculosis. All present reports at the 1913 Annual Meeting. At that latter meeting, the appointment of committees on Legislation and Legal Limits for the Control of Milk and Cream, on Civil Service, and on A Dairy Farm Score Card were authorized. Five of the six committees reported during the 1914 Annual Meeting. The titles of some of these committees were subsequently changed and their fields broadened.

Beginning with the 1915 Annual Meeting milk quality control legislation and the organization of quality control programs became the targets of committee study and action.

It was not until the December, 1918 Annual Meeting in Chicago that a Committee on the Pasteurization of Milk and Cream was authorized. The concentration of interest in the production of milk—and its distribution in the raw and frequently bulk state—during the first decade of the Association (exemplified by this late appointment of a committee to study pasteurization) is also emphasized by the

fact that the word “pasteurization” did not appear in the title of any of the papers presented at the first three Annual Meetings.

Even the mere scanning of the first ten Reports of Annual Meetings makes it evident that milk sanitation administrators and dairy and milk inspectors had problems during the pre-1920's, even as do milk sanitarians today. There may be reasons to question their capabilities, suddenly confronted with modern technological problems, to meet them (if one is interested in that type of comparison). However, many of the technically-trained milk sanitarians now functioning might prefer to retreat from the explosive problems in human relations which the pioneers frequently faced. The main point is that some of those pioneers in milk sanitation had vision. The theory might logically be advanced that, had they not organized the Association in 1911-12, some of their successors would later have done so. That logic can hardly be questioned. But, none of us can deny that, had not their vision and initiative achieved an organization culminating in a meeting in 1912, we would not be memorializing the Fiftieth Anniversary of this Association now. We are heavily indebted to them for initiating an organization—and a movement—from which all of us have derived benefits.

SPECIAL FEATURE

INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS SPONSORS INCOME PROTECTION PLAN

Something new! Our Group Income Replacement Insurance Plan!

During recent years we have witnessed with increasing interest the wide and enthusiastic acceptance of group insurance plans adopted by organizations similar to our own as an added membership benefit.

The reason for the marked success of these plans is, of course, readily apparent. The offered coverage fills a need in the insurance programs of the individual members and the protection is made available to them at a significant savings through the Association's mass purchasing power. This, then, becomes an association activity and like any association activity, its success is dependent upon the active support and participation of each member.

The officers of your Association have long devoted considerable thought and effort to determine the most effective procedure to follow in establishing a group insurance program meriting your support. As a result, arrangements have been completed with

the ASSOCIATION SERVICE OFFICE of Philadelphia to act as our Administrators. This organization is one of the oldest and most experienced in this highly specialized insurance field, acting as group insurance administrators for a number of highly successful programs sponsored by national professional and semi-professional organizations, including the College of American Pathologists, the American College of Obstetricians and Gynecologists, the National Association of Social Workers, the American Occupational Therapy Association, the Association of Military Surgeons, and others. Working with this organization, the Group Income Replacement Insurance Plan has been negotiated with Educators Mutual Life Insurance Company of Lancaster, Pennsylvania, who have underwritten a number of group insurance plans for national organizations like our own. Thus, we are firmly convinced that the foundation of this Association-sponsored activity has been very well laid indeed.

The need for insurance protection is, of course,

abundantly evident to all of us. Yet, strangely enough we frequently overlook insuring our own goose that lays the golden eggs—our ability to work, earn salaries and produce income on which our standard of living is based. Thus, our initial offering in our group insurance program is the Income Replacement Plan which basically provides a choice of weekly benefits in the event the insured becomes totally disabled as a result of an accident or illness condition, together with important allied benefits.

You will receive through the mail detailed information regarding this plan together with an application for your use. You will note that through employing two separate plans, provision has been made for those of us who require "immediate" protection as well as for those whose needs, because of existing coverage personally secured or through employer—employee agreements, may best be satisfied on a deferred compensation basis. Thus, Plan I provides for the payment of accident benefits beginning with the 1st day or total disability and illness benefits beginning with the 8th day of disability, or 1st day of hospital confinement, whichever occurs the earliest. Under Plan II, with a correspondingly lower premium structure, total disability benefits are paid from the 31st consecutive day of total disability caused by either accident or illness.

Only those who have been unfortunate enough to experience a prolonged illness or disabling accident can truly appreciate the contribution a steady, de-

pendable weekly income means to one's peace of mind. It is not difficult, however, to imagine the distress caused by the financial chaos which more often results when income is abruptly terminated and the inexorable routine expense of day to day living is compounded by the additional charges incurred because of medical treatment and allied costs.

But, you cannot buy insurance protection at any price if you wait until you really need it!

Consequently, we present our Group Income Replacement Insurance Plan as a new and additional membership benefit. Please read the brochure carefully, study the benefits available, then complete and mail your application.

During this our charter enrollment period which is of vital and prime importance to the future success of this plan, the underwriting company has agreed that if applications are submitted by at least 50% of our members under the age of 70, coverage will be guaranteed to all applicants regardless of past medical history.

We commend this plan to you for your consideration. We urge you to take advantage of this opportunity to help yourself, as well as your fellow members, by submitting your application without delay.

Your interest and participation in this new activity will guarantee its success for our Association and will prove to be an added membership benefit of significant importance to yourself, as it has proven to be to so many others.

News and Events

MEET OUR PRESIDENT

RAY BELKNAP OF PHS HEADS INTERNATIONAL AFFAIRS

On October 27, 1962, the new President of the International Association of Milk and Food Sanitarians, Inc., Ray A. Belknap, assumed his responsibilities and duties. He has served on the Executive Board for the past three years to which he was elected at the 1959 Annual Meeting held at Glenwood Springs, Colorado.

A native of Iowa, President Belknap is presently engaged as a milk consultant with the United States Public Health Service in Chicago, Illinois. How-

ever, before going to work for the PHS, he spent seven years as a senior milk sanitarian for the Iowa State Department of Health.

The forty-four year-old Chief Executive names Des Moines, Iowa, his home where he was born and attended public school. He later attended Iowa State University, Ames, Iowa, where he earned his Bachelor of Science in Dairy Industry.

Before going with the Iowa State Department of Health, he had worked in dairy plants located in St. Louis, Missouri, and Des Moines. He later became the chief milk sanitarian for the city of Des Moines where he was affective in providing for the adoption of a *Grade A Ordinance* and for the development of the milk supply in Des Moines.

Mr. Belknap spent over four years with a field artillery unit during World War II. He was on active duty from July, 1941 until December, 1945. He is the father of three children, Mike, 14, Bruce, 10, and Dana, 8. He, his wife, Rachael, and children are now residing in Barrington, Illinois.

At the close of his term as President of IAMFS, Mr. Belknap will serve the two succeeding years on the Executive Board.

Ontario Named Annual Meeting Host

The 50th Annual Meeting of the International Association of Milk and Food Sanitarians will be held October 22 through 25 in Toronto, Ontario, at the Royal York Hotel. This is the third Annual Meeting to be held in Canada and the first since 1931.

The Central Ontario Milk Sanitarians Association will host the 1963 meeting. The general theme of the program will be *communications*. Many phases of communications, from the basic idea of human motivation to the selling of sanitation will be included as part of the program. The keynote and other speakers will be announced at a later date.

The 1963 Annual Meeting will be composed of several general sessions which will be of interest to all those attending; milk, food and environmental sessions for those who wish to hear papers on certain topics and also, consulting sessions to allow time for an open discussion of problems which arise for the sanitarians while in the field, or any other areas of pertinent interest.

Following the COMSA Fifth Annual Meeting, the IAMFS Program Committee, chaired by John H. Fritz, president-elect, and members of the Executive Board and Staff had the opportunity to meet jointly with the Local Arrangements Committee to discuss tentative plans for the Annual Meeting and to review the plans now being made.

Following the joint meeting, members of the IAMFS delegation met and scheduled the sessions for the Annual Meeting. Topics for the papers have been selected and the schedule for the sessions has been finalized. Chairman Fritz reported that the plans for the 50th Annual Meeting are progressing satisfactorily and will soon be released in final form.

The Association members present at the meetings were: Ray A. Belknap, *President*; John H. Fritz, *President-Elect*; Wallace Lawton, *First Vice-President*; Fred E. Uetz, *Second Vice-President*; H. L. Thomasson, *Executive Secretary* and John Simpkins, *Assistant Executive Secretary*. Mr. Richard March,

chairman of the Council of Affiliates, was also on hand for all of the sessions. Dr. C. K. Johns is serving as liaison officer for the Central Ontario affiliate and also attended.

JANUARY 22, 1963

Conference Held By Food And Drug Lawyers Of State Bar Association

The Eighteenth Annual Meeting of the Section On Food, Drug and Cosmetic Law of the New York State Bar Association convened January 22, 1963 at the Hotel Americana in New York City.

Much of the morning was devoted to hearing speakers discuss the relationship of the Food and Drug Administration with other organizations and agencies. During these sessions, addresses were given by: C. Joseph Stetler, director, Legal and Socio-Economic Division, AMA, on "Relations Between AMA and FDA;" Oliver Field, director, Department of Investigation, AMA, on "The AMA-FDA Efforts to Curb Medical Quackery;" R. E. Curran, legal adviser, Canadian Department of National Health and Welfare, on "Neighborhood Cooperation in Food and Drug Administration."

Others speaking during the morning session included: The Honorable Everette MacIntyre, Federal Trade Commissioner, Washington, D. C., on "Fair Advertising Landmarks," and M. R. Clarkson, Agricultural Research Service, U. S. Department of Agriculture, on "Agriculture—Food Supplier to the Nation."

A noon luncheon was given in honor of Mr. George P. Larrick, Commissioner of Food and Drugs, who spoke to those attending about "Administering New Food and Drug Laws."

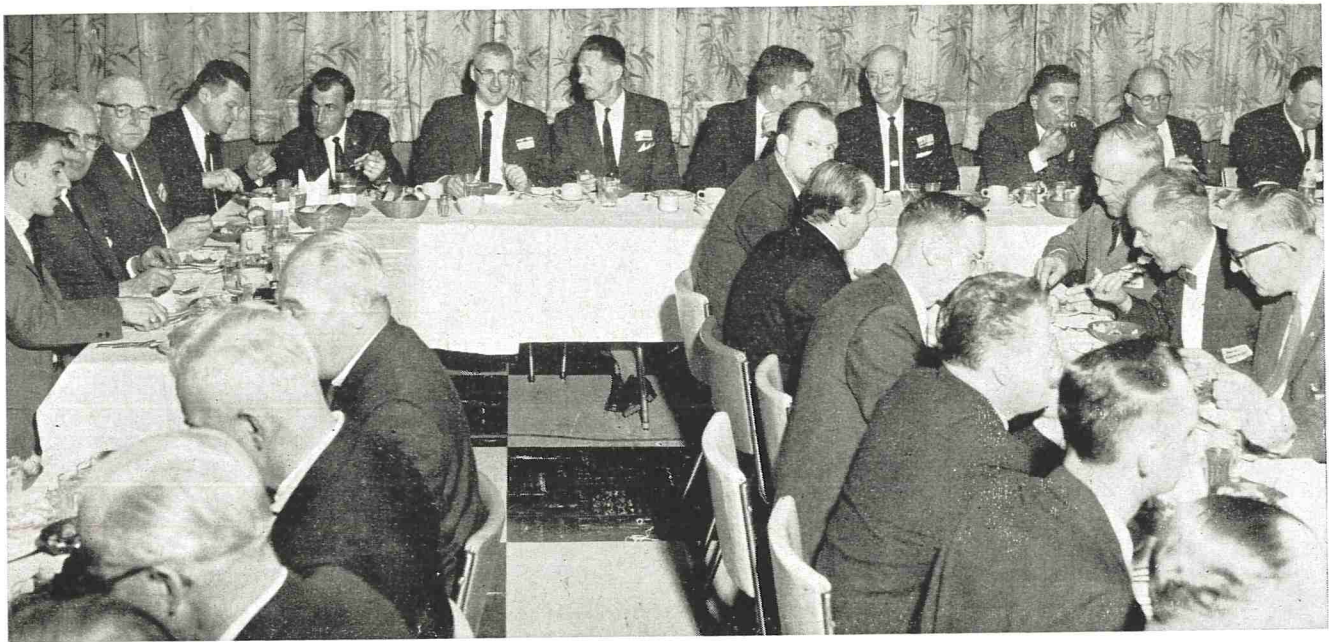
Mr. John T. Kelly, legislative counsel, Pharmaceutical Manufacturers Association, addressed the group in the afternoon concerning the "Drug Amendments of 1962" and was preceded by William J. Condon, attorney, Swift and Company, who presented a prelude to Mr. Kelly's address by informing the members in attendance of the "Development with Respect to Product Liability Laws."

The Annual Meeting was closed with the election of the new officers. Mr. Franklin M. Depew, chairman of the Section, presided at the meeting.

FOR THAT FRESH COUNTRY FLAVOR¹

Called to our attention recently, by the 9-year-old daughter of a friend who noted the words on a milk carton, was this description of a carton of 2% fat milk: "Pasteurized, homogenized, fortified, modified skim milk." Immediately under this was the slogan: "For that fresh country flavor."

¹Reprinted from *For Your Information*, Jan. 23, 1963.



An unexpected number attended the COMSA's Annual Banquet. According to Mr. George Hazelwood, past-president, approximately 130 were in attendance.

International Dairying Is Featured At Ontario Meet

An unexpected one hundred and forty attended the Fifth Annual Meeting of the Central Ontario Milk Sanitarians Association held January 30 at the Pickfair Restaurant, Toronto, Ontario.

An international theme was used effectively in presenting the dairy industry to the members and guests. Those on the program included Professor A. M. Pearson, Dairy Science Department, Ontario Agricultural College; Dr. C. K. Johns, Head, Dairy Section, Research Branch, Canada Department of Agriculture; Professor Alec Bradfield, University of Vermont.

Professor Pearson's presentation, entitled "My Impression of Dairy Plant Operations In Europe," was a resume of visits made to several of the plants in Great Britain, Germany, Denmark and other Scandinavian countries.

In highlighting the physical aspects of the plants, Professor Pearson indicated that due to the informal circumstances of his visits, he was unable to observe all of the operations. He did, however, emphasize that much stress is being placed on quality control. The professor pointed out that the firms are quite dependent on export trade and, consequently, are making a great effort to strive for quality products to obtain their share of the world market. One of the notable features of their operations, according to Professor Pearson, is the great expenditure of time and money directed to research and development.

Following Professor Pearson, Dr. C. K. Johns gave a color slide account of dairy farms and milking installations in the British Isles and Scandinavian countries. Dr. Johns obtained his pictures while on an extensive tour following the International Dairy Congress in Copenhagen, Denmark, to which he was an official delegate. His portion of the program was entitled "Dairy Farms in Britain and Scandinavian Countries" and was a vivid and interesting part of the Annual Meeting.

The third paper presented which followed the international theme was given by Professor Alec Bradfield as the feature of the evening banquet. Dr Bradfield stressed, in "Training of Dairy Personnel in Britain, Denmark, Holland and Germany," the thoroughness of the programs and high standards which are established. He pointed out that most graduates of the programs become managers and directors of the dairy plants and farms. These programs consist essentially of theory, laboratory work, and field work and are rigorous in all respects.

Other speakers at the Fifth Annual Meeting included Don Woods, West Chemical Company; Dr. A. Myhr, Ontario Agricultural College; Dr. D. R. Arnott, Ontario Agricultural College; Fred Hamilton, Secretary of COMSA; and Mr. Herman Cauthers, Lakeview Dairy. The late afternoon session was devoted to a symposium on milk flavors (types, causes, techniques for evaluation and control).

The guest of honor at the banquet was Miss Dianne Fierheller, Ontario Dairy Princess. Miss Fierheller spoke to the members concerning the young people's participation in the dairy industry and their interest in its problems.

Mr. Ray A. Belknap, president IAMFS, spoke about the relationship between the International and COMSA and praised the affiliate for their fine Annual Meeting. He said, "Your organization has the potential to become one of the largest and strongest of our affiliates."

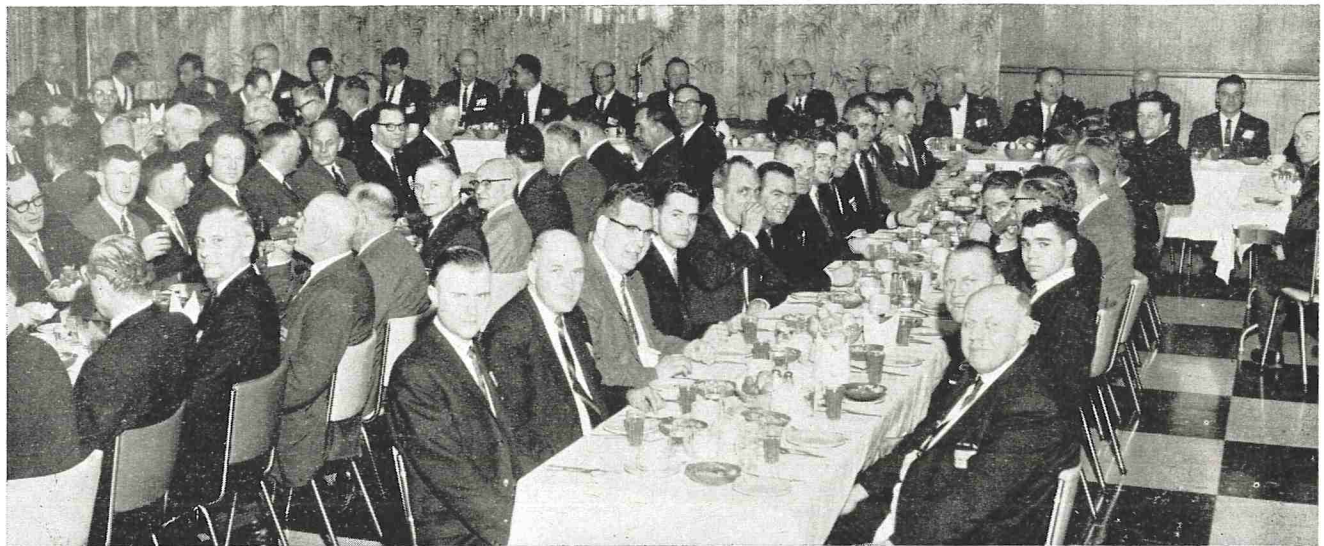
During the business meeting held in the morning, the COMSA took action to increase the number of men on their Board from three to five to meet the expanding needs of the Association. There was also a motion passed to institute a better form of communications among the Ontario members, such as a newsletter, according to Fred Hamilton, secretary. There was also discussion about a change of fees to include both local and International dues. No action was taken.

The new Executive for the COMSA was elected and are as follows: *President*, William McCorquodale; *Vice-President*, Dr. Ted Watts; *Secretary*, Fred Hamilton; *Treasurer*, Jack Raithby; *Counsellors*, Tom Dickinson, Herman Cauthers, Art Leggatt, Cy Whitlock and Glen White.

Past-president William Lawrence presided at the Meeting.



The guest of honor, Miss Dianne Fierheller, Ontario's Dairy Princess, at the COMSA's Fifth Annual Meeting, is shown here with Association executives and Professor Alec Bradfield guest speaker. Standing, left to right, are Ray A. Belknap, President, IAMFS; Fred Hamilton, Secretary, COMSA; and William Lawrence, 1962 President, COMSA. Seated, left to right are: William McCorquodale, President, Central Ontario Affiliate; Miss Fierheller; and Professor Bradfield, University of Vermont.



The Central Ontario Milk Sanitarians Association's Banquet, held Wednesday evening, January 30, featured Dr. Alec Bradfield as guest speaker. Dr. Bradfield, University of Vermont, is seated at the speaker's table, second to the right of the microphone. He spoke on "Training of Dairy Personnel in Britain, Denmark, Holland and Germany."

Cornell Man To Assist In UN Program

A Cornell University professor has accepted an invitation of the United Nations to assist the administrative staff of its Food and Agricultural Organizations in Rome, Italy, for a six-month period.

Dr. Frank Kosikowski, professor of dairy science in the N. Y. State College of Agriculture, began a sabbatical leave on February 6 for this assignment.

In addition to helping administer the work of the

Dairy Branch, Division of Animal Production and Health of the FAO, the Cornell scientist has been asked to undertake two special projects for the United Nations.

One will be to help form long-term policies of FAO's rapidly expanding dairy training and education programs in Asia, Africa, and Latin America. The other will be to aid in the preparation of an international meeting on dairy training and education to be held in Paris this year.

Massachusetts Members Vote To Affiliate With IAMFS

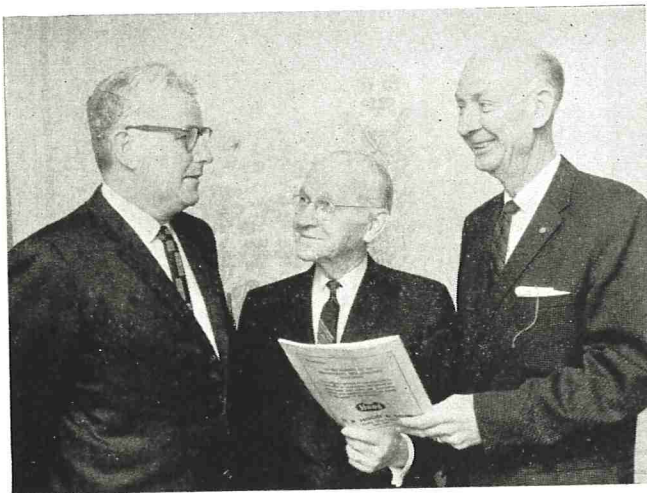
Highlighting the Massachusetts Milk Inspectors Association's Annual Meeting, held January 16 and 17, was the vote by the membership to affiliate with the International Association of Milk and Food Sanitarians.

The two-day program was held at the Hotel Sheraton, Worcester. Dr. G. Foard McGinnis, commissioner of Worcester Health Department, was the guest of honor at the annual affair.

Mr. H. L. "Red" Thomasson, executive secretary, International Association, was the guest speaker at the banquet on Wednesday. He reviewed the advantages to be derived from the Association's affiliation with the International.

During the business meeting, officers were elected for the 1963 term. Those newly elected are: *President*, Eugene E. Reilly, Jr., Worcester; *Vice-President*, Joseph Killmartin, Lowell; *Executive Committeeman*, Charles Drake, Shrewsbury; *Associate*, Angelo DeLuca, Weymouth; and *Legislative Committeeman*, Joseph Donovan, Brookline. Re-elected were *Secretary-Treasurer*, John Curtin, Quincy; and *Executive Committeemen*, Frank Lynch, Holyoke and Kenneth Dorman, Gilbertville.

The program, which convened following lunch on January 16, opened with an address by James White, Cornell University, speaking on "*Administration Practices In A Total Milk Control Program*." He was followed by Everette Maynard, professional consulting engineer, talking to the group about "*Sewage,*



Pictured here discussing the Twenty-eighth Annual Yearbook of the Massachusetts Milk Inspectors Association are: Mr. Eugene E. Reilly, president MMIA (left); Dr. G. Foard McGinnis, commissioner, Worcester Health Department, guest of honor, and H. L. Thomasson, Executive Secretary IAMFS, guest speaker, (right).

Industrial and Dairy Waste Problems.

George Michael, director, Division of Food and Drug, Massachusetts Department of Public Health, registered his disappointment in the farmers of Massachusetts who hesitated to comply with a request made by his department. The Department of Public Health had asked that the farmers take measures to protect against increasing radioactive counts by putting cattle on stored feed instead of pastureland feed.

Mr. Michael spoke to the Inspector's on "*Milk Contamination Problems*," and warned that any further hesitancy on the farmers' part, should a similar situation arise in the future, would result in a public warning and the farmers would have to suffer the economic consequences.

He said, in part, ". . . we in public health cannot jeopardize the health of the public for anyone's economic welfare."

The second day of the meeting featured two hours of dairy seminars on: "*Biology and Control of Insects*," "*Health Hazards of Pesticides*," and "*HTST Pasteurization-Inspection- and Testing*." The meeting was adjourned at noon following these sessions.

THE PORTLAND, OREGON MASTITIS CONTROL PROGRAM

The Portland Bureau of Health has long been concerned with and active in promoting study of the problem of mastitis and its control. Following the National Mastitis Meeting held in Chicago, 1960, we initiated an experimental control program. An introductory letter and a suggested mastitis prevention program was mailed to all producers. Samples were collected every six weeks for bacterial analysis from the 1,000 producer's herds in the Portland Milk Shed; the samples were also examined for mastitis using the California Mastitis Test (C.M.T). Twenty per cent (20%) of the first samples tested showed a positive reaction, and a letter was sent to those producers stating that there was an indication of infection in their milking herds.

At the time of the second test, those producers whose milk again showed a positive reaction received a similar letter with an addition in red type advising them to consult their veterinarian and milking machine representative. The results of this program have disclosed two apparently significant factors: First, there were many more positive reactions than anticipated, indicating the widespread presence of mastitis; second, routine tests and follow-up procedures have resulted in reducing the number of positive reactions to approximately six per cent

(6%). Most of this reduction occurred during the first twelve months of the two-year period.

The California Mastitis Test can give an indication only of the number of leucocytes in the milk. It has been stated that a number one positive represents 1,000,000 cells per milliliter and indicates that probably 35% of the herd of cattle are infected. A direct microscopic count on each bulk sample could be imposed.

Unquestionably, a key figure in our experimental program is the city veterinarian who visits the producer whose herd is showing a positive result. While he does not advise an individual producer regarding treatment (but refers him to a private veterinarian), his advice regarding better animal facilities, care of equipment, and the proper method of milking cows has helped to establish a better and a more personal relationship between our office and the producer.

We have enjoyed excellent cooperation from the producers and their agents, the milk distributors, and the private veterinarians, which is so essential if this type of program is to succeed.

The dairymen know they are suffering a tremendous financial loss due to mastitis; and, from a health standpoint, we are also very anxious to reduce the degree of mastitis within each herd. It is obvious that mastitis will not be eliminated completely, but we do believe that it can be consistently controlled to a greater extent than it has been in the past.

Following is the Portland Mastitis Program:

VETERINARY SERVICE

A full time veterinarian is assigned to the Milk Division. His duties are:

1. To run mastitis screening tests in the laboratory on producer bulk tank samples collected for bacterial analysis.

2. To visit all producers whose samples show a positive result on the C.M.T.

3. To discuss with the producer the care of cattle, proper installation of milking equipment, proper milking procedures, problems of mastitis, and the types of organisms which may cause mastitis.

4. To recommend that the producer consult his own veterinarian and milking machine service man, the Oregon State University Extension Service, or the milk company fieldman.

5. To make preliminary examinations of offending animals when requested by the producer.

Although screening tests for this program can be performed by a direct microscopic count or by the California Mastitis Test, Milk Quality Test, Catalase Test, or the modified Whiteside Test, the C.M.T. is used in the Portland Mastitis Control Program. In

most screening tests, the longer milk is held the lower the leucocyte count will be; therefore, it is essential to use fresh milk samples.

LABORATORY

The laboratory runs direct microscopic leucocyte counts on all samples showing a positive C.M.T. result, and, if necessary, identifies the organisms causing the problem. The ideal laboratory program would be to do a direct microscopic leucocyte count on all samples, but this is extremely time consuming.

ADMINISTRATION AND SUPERVISION

The mastitis program is under the direct supervision of the City Health Officer and the Chief of the Division of Milk Sanitation. A complete set of records on all producers is kept by the Division and includes the C.M.T. results, leucocyte counts, type of organism, sediment, bacteria, herd count, treatment, brand of milking equipment, type of milking, and housing, as well as copies of all letters sent

(Continued on page 69)

Monarch has a new

RUBBER CLEANER and CONDITIONER

Called Monarch

RUBBER CLEANER and CONDITIONER

There's nothing like

RUBBER CLEANER and CONDITIONER

for cleaning ALL types
of rubber inflations
and vacuum lines.

ASK YOUR
MILK HAULER

a product of

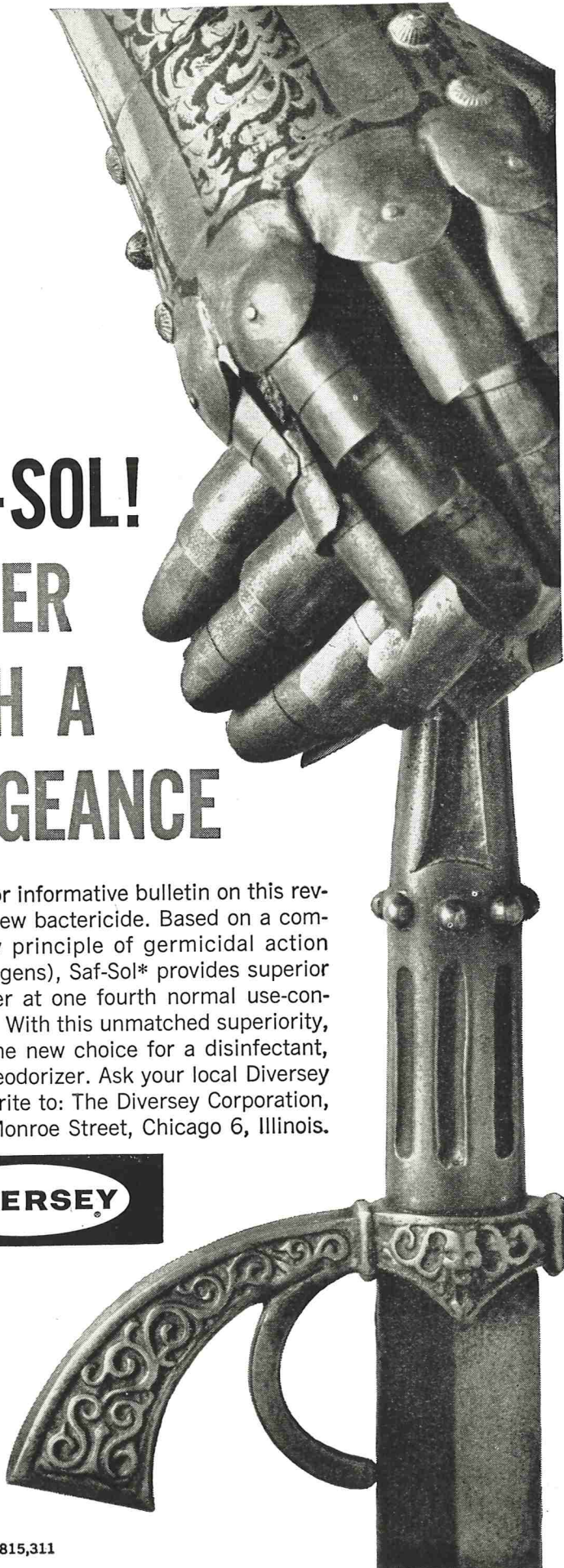


Monarch Chemicals, Inc.

SAF-SOL! KILLER WITH A VENGEANCE

Send now for informative bulletin on this revolutionary new bactericide. Based on a completely new principle of germicidal action (mixed halogens), Saf-Sol* provides superior killing power at one fourth normal use-concentrations. With this unmatched superiority, Saf-Sol is the new choice for a disinfectant, sanitizer, deodorizer. Ask your local Diversey D-Man or write to: The Diversey Corporation, 212 West Monroe Street, Chicago 6, Illinois.

DIVERSEY



EVENTS IN MARCH

- March 7-8 Minnesota Dairy Products Association, Convention and Annual Meeting, Lowry Hotel, St. Paul, Minnesota. Write Floyd Thompson, 416 New York Building, St. Paul 1, Minnesota.
- March 8-9 Annual Food Technology Short Course, "Food Research Planning," University of Missouri College of Agriculture, Columbia, Missouri. Write: Charles W. Gehrke, Room 4, Agriculture Building, University of Missouri, Columbia, Missouri.
- March 10-12 Dairy Products Association of Kentucky, Annual Meeting and Industrial Conference, Brown Hotel, Louisville, Kentucky. Write: D. F. Conley, Executive Secretary, 2927 W. Kentucky Street, Louisville 11, Kentucky.
- March 11-14 National Conference on Handling Perishable Agricultural Commodities, Purdue University, Lafayette, Indiana. Write: K. I. Fawcett, Horticulture Department, Purdue University, Lafayette, Indiana.
- March 13 University of Maryland, Cottage Cheese Conference, Student Union Building, University of Maryland, College Park, Maryland. Write: Professor W. S. Arbuckle, Dairy Manufacturing University of Maryland, College Park, Maryland.
- March 14-16 Pacific Dairy and Poultry Association, Exposition and Convention, Ambassador, Los Angeles, California. Write: Carl E. Nall, 2639 S. La Cienega, Los Angeles, California.
- March 20 Purdue University, Animal Science Department, Dairy Manufacturing Section, Market Milk Conference, Memorial Center, Purdue University, Lafayette, Indiana. Write: H. F. Ford, Purdue University, W. Lafayette, Indiana.
- March 20-21 American Dairy Association, Annual Meeting, Pick-Congress Hotel, Chicago, Illinois. Write: Frank R. Neu, 20 N. Wacker Drive, Chicago 6, Illinois.
- March 24-26 Tennessee Dairy Products Association, Annual Convention, Patten Hotel, Chattanooga, Tennessee. Write: B. V. Lawson, 1719 West End Building, Nashville 3, Tennessee.
- March 24-30 ICMI's Management Development Course for Dairy Executives, Bishop's Lodge, Santa Fe, New Mexico. Write: William L. Carter, 1105 Barr Building, Washington 6, D. C.
- March 25-26 Advances In Flavor Research, Southern Regional Research Laboratory, New Orleans, Louisiana. Write: Mr. Patton, P. O. Box 19687, New Orleans, Louisiana.

(continued from page 67)

to the producers and their agents regarding this program.

It is essential that the private veterinarians be well informed of the procedures specified in the Portland Mastitis Control Program, which includes, in addition to those detailed in this report, suggested preventative measures for the producer to follow regarding cattle inheritance, general housing, sanitation, animal care, and information relating to the milking process.

The Milk Division also exchanges information with Oregon State University and the milk companies who have their own control programs. The milk companies have been encouraged to establish such programs.

Should the results of this program continue to be favorable and as soon as the National Mastitis Council and the U. S. Public Health Service set a minimum leucocyte count standard for milk acceptable for human consumption and recommend uniform procedures for control, the City of Portland Bureau of Health will be in a good position to enter into an official regulatory program of degrading similar to that we now have for bacteria. It seems reasonable to assume that there should be very few degrades and a definite improvement in the economic outlook for the producer if this program is properly administered and supervised.

A. E. Parker, Chief
Division of Milk Sanitation
Bureau of Health
City of Portland, Oregon

3 A Committees To Meet In Atlantic City, March 12

Mr. D. H. Williams, secretary, has announced the next meeting of the 3-A Sanitary Standards Committees will be March 12 through 14 in Atlantic City, N. J., at the Hotel Claridge.

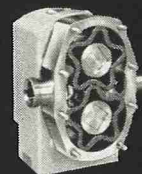
The meeting is considered to be a critical one for the tentative Plastics Standard, and particularly, the Air Under Pressure Standard. Other subjects to be considered and discussed by the committees are: (*User Group*) Bulk Dispenser Revision, Fittings Amendments (rubber-covered valves), Electric Motors (rescinding action), Transportation Tank Amendment, Storage Tank Amendment (silo tanks), Plastics and Air Under Pressure; (*Sanitarians*) Plastics, Air Under Pressure, Rubber Amendments (including Pump Amendment), Ice Cream Fillers and Cottage Cheese Fillers. Following the separate sessions, a joint session will be held on Plastics, Air Under Pressure and the Rubber Amendments.

one great reputation five great pumps



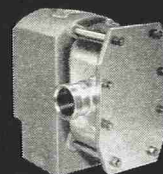
STAINLESS STEEL ROTARY SANITARY

Wherever food, milk, bakery products, beverages, ice cream are processed, CP Sanitary Pumps with Resilient Rotors offer high product protection.



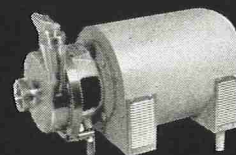
STAINLESS STEEL ROTARY MODEL "U"

New economical CP Model "U" Rotary Pump was designed to meet your pumping needs at remarkable savings. CP offers this model with exclusive Resilient Rotors. The Model "U" provides lowest cost per gallon pumped.



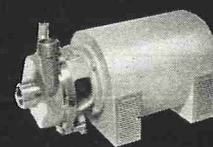
STAINLESS STEEL CENTRIFUGAL SANITARY

You will not find a Centrifugal Pump with more design features built in for high capacity, high pressures, continuous pumping. Your choice of Motors. Three types of seals.



STAINLESS STEEL CENTRIFUGAL INDUSTRIAL

Centrifugal pumping at lowest cost. Excellent for CIP. Any type fitting available... and with *your* choice of motor.



CENTRIFUGAL WATER and BRINE

CP Water and Brine Pumps meet most requirements. CP special design allows economical, efficient pumping.



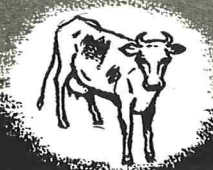
Choose the type for your requirement



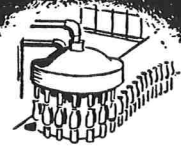
THE *Creamery Package*® MFG. COMPANY
— SUBSIDIARY OF St. Regis PAPER COMPANY

General and Export Offices:
1243 W. Washington Blvd., Chicago 7, Ill.
Creamery Package Mfg. Co. of Canada, Ltd., Toronto — 2B, Ontario

FROM
COW



TO
CONTAINER



ROCCAL[®]

high potency, high speed germicide
SANITIZES BEST!

Use ROCCAL, the first "quat" and first in quality and performance, in every step of milk production, and you effectively control bacteria, slime, fungus and algae. Highly effective against both thermoduric and thermophilic organisms, ROCCAL, in recommended dilutions, is virtually odorless, tasteless, will not injure or corrode metal or rubber equipment, cans, tanks, pipes, etc.

The choice of the milk industry for more than 25 years, ROCCAL is a powerful germicide that effectively, quickly and economically sanitizes walls, floors, holding tanks, tank trucks, utensils, machinery, operator's hands, cows' teats, flanks and udders, etc. . . . yes, you can use it for every sanitizing need!

In impartial testing of several types of germicides, ROCCAL achieved lowest bacterial count, reducing the number from 912,916 to 143 as an average in 96 milk cans analyzed. Don't risk losses through improper sanitization. Use ROCCAL for the best sanitizing job every time.

ROCCAL HAS A HARD WATER TOLERANCE LEVEL OF 550 ppm WITHOUT SEQUESTRANTS when tested by Official Method

ROCCAL FIELD TEST UNIT is a quick, practical, accurate method for indicating adequate concentrations of ROCCAL solutions.

Send for full data and prices on ROCCAL FREE SAMPLE ON REQUEST!

Sterwin Chemicals, Inc.
Subsidiary of Sterling Drug Inc.
1450 Broadway, New York 18, N. Y.

New Members of International

JANUARY 1 THRU JANUARY 31

DIRECT MEMBERS

Maunel Cima Fernandez Quimico, Madrid, Spain	F. O. Long Dolton, Illinois
Donald A. Schieman Charlotte, North Carolina	William B. Lutz Geneva, New York
Robert Raemore Williamsport, Pa.	E. B. Siemers Casper, Wyoming

CALIFORNIA ASSOCIATION OF DAIRY AND MILK SANITARIANS

Richard Kirby
Lakewood

CONNECTICUT ASSOCIATION OF DAIRY AND FOOD SANITARIANS

Robert L. Hayden Syracuse, N. Y.	Harold D. Neumann Hamden
Robert Miller Bloomfield	Edward Pottbecker Bethel

GEORGIA SOCIETY OF REGISTERED PROFESSIONAL SANTARIANS

James Beggs Washington	Fred Hemphill Newnan
---------------------------	-------------------------

INDIANA ASSOCIATION OF SANTARIANS

Joseph S. Johnson Evansville	Homer T. Marsh Newcastle
Duane Pemberton Evansville	Larry Sherry Indianapolis
	Edward Warren Columbus

KENTUCKY ASSOCIATION OF MILK AND FOOD SANTARIANS

Robert Enlow
Hodgenville

MINNESOTA SANTARIANS ASSOCIATION

W. G. Page Minneapolis	Earl Herdegen Minneapolis
---------------------------	------------------------------

MISSISSIPPI ASSOCIATION OF SANITARIANS

Beazley J. Holifield Brookhaven	Greenville Restaurant Ass'n. Greenville
Cecil E. Smith Brookhaven	J. W. Watson Biloxi
Laurence E. Smith Brookhaven	John T. Moore State College
	R. N. Luther Biloxi

NEW YORK STATE ASSOCIATION OF MILK SANTARIANS

Michael J. Scanlon Norwood	Ervin C. Hamme Binghamton
W. Forman Applegate Ithaca	Alton Johnson High Falls

Harvey Breier
Brooklyn

Donald S. Kennedy
Walton

Charles Williams
Deansboro

R. D. Britton
Mountainside, N. J.

Carl E. Jerrings
Rochester

Nickolas R. Mamula
West Seneca

Paul A. Young
Middlebury, Vt.

Delbert C. Foord
New York City

PENNSYLVANIA DAIRY SANITARIANS ASSOCIATION

Dan J. Mosser
Uniontown

John E. Wengert
Lebanon

James H. Thompson
Pittsburgh

James R. Kinchloe
McKeesport

Sam Beardsley
Marathon, N. Y.

RHODE ISLAND ASSOCIATION OF DAIRY AND FOOD SANTARIANS

Edward D. Greer
Providence

George Tebeau
East Greenwich

SOUTH DAKOTA ASSOCIATION OF SANTARIANS

Robert R. Taylor
Sioux Falls

John D. Sexton
Pierre

WASHINGTON MILK SANTARIANS ASSOCIATION

D. W. Mills
Centralia

Howard Lent
Spokane

Frederick Tumm
Vancouver

Raymond T. Masuda
Yakima

Milton Wiesner
Bellingham

Merritt Nash
Seattle

L. A. Weddle
Spokane

MASSACHUSETTS MILK INSPECTORS ASSOCIATION

Tim Miller
Springfield

INDEX TO ADVERTISERS

Babson Bros.	Back Cover
Creamery Package Mfg. Co.	69
Difco Laboratories	II
Diversey Corp.	68
Garver Mfg. Co.	II
Haynes Mfg. Co.	71
IAMFS (Insurance)	I
Johnson & Johnson	72
Klenzade Products, Inc.	IV
Lazarus Laboratories, Inc.	
Division of West Chemical Products, Inc.	II
Monarch Chemicals, Inc.	67
Olin-Mathieson Chemical Corp.	Inside Back Cover
Pennsalt Chemicals Corp.	Inside Front Cover
Sterwin Chemicals, Inc.	70

A HEAVY DUTY SANITARY LUBRICANT

Available in both
SPRAY AND TUBE

All Lubri-Film ingredients are approved by F.D.A. and can be safely utilized as a lubricant for food processing equipment when used in compliance with an existing food additive regulation.

ESPECIALLY DEVELOPED FOR LUBRICATION OF FOOD PROCESSING AND PACKAGING EQUIPMENT

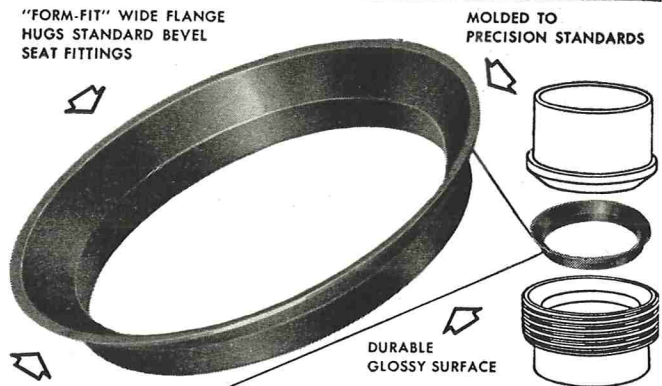
For Use in Dairies — Ice Cream Plants — Breweries — Beverage Plants — Bakeries — Canneries — Packing Plants

SANITARY • NON TOXIC • ODORLESS • TASTELESS

SPRAY — PACKED 6 — 16 OZ. CANS PER CARTON
TUBES — PACKED 12 — 4 OZ. TUBES PER CARTON

THE HAYNES MANUFACTURING CO.
CLEVELAND 13, OHIO

HAYNES SNAP-TITE GASKETS



DESIGNED TO SNAP INTO FITTINGS

▶ LOW COST...RE-USABLE
▶ LEAK-PREVENTING
NEOPRENE GASKET for Sanitary Fittings

Check these **SNAP-TITE** Advantages

- | | |
|---|-------------------------------|
| Tight joints, no leaks, no shrinkage | Time-saving, easy to assemble |
| Sanitary, unaffected by heat or fats | Self-centering |
| Non-porous, no seams or crevices | No sticking to fittings |
| Odorless, polished surfaces, easily cleaned | Eliminate line blocks |
| Withstand sterilization | Help overcome line vibrations |
| | Long life, use over and over |

Available for 1", 1½", 2", 2½" and 3" fittings.
Packed 100 to the box. Order through your dairy supply house.

THE HAYNES MANUFACTURING CO.
4180 Lorain Avenue • Cleveland 13, Ohio

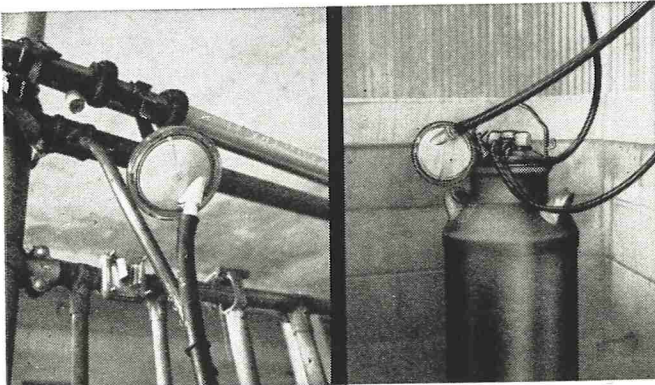
NEW 3-piece RAPID-FLO® filter holder by Johnson & Johnson

*Lets you see when to change filters
...spots mastitis flare-ups at a glance*

No more guesswork! You can see how clean your milk from each cow really is. And you have an every-cow check on mastitis. This new RAPID-FLO® Filter Holder by Johnson & Johnson is made of tough, transparent plastic, lets you spot sediment and garget build-up on milk filters—at a glance. You can single out the cow showing flaky quarters, mastitis flare-ups, or excessive sediment.

Design of the RAPID-FLO® Filter Holder is simple. There are just 3 parts. Valuable time isn't wasted in washing and assembling. You can insert a VACULINE® Milk Filter Disk in the RAPID-FLO® Filter Holder and assemble it *in less than 1 minute.*

Put the new see-thru RAPID-FLO® Filter Holder to work in your dairy barn right now. Only \$8.95 complete!



For Pipeline Milkers—Inlet on Filter Holder attaches to milker; outlet plugs into pipeline.

Direct-To-Can Milkers—Milker tube attaches to inlet nozzle; outlet tube goes directly to can.

FILTER PRODUCTS DIVISION, DEPT. 22023

Johnson & Johnson

4949 West 65th St., Chicago 38, Illinois

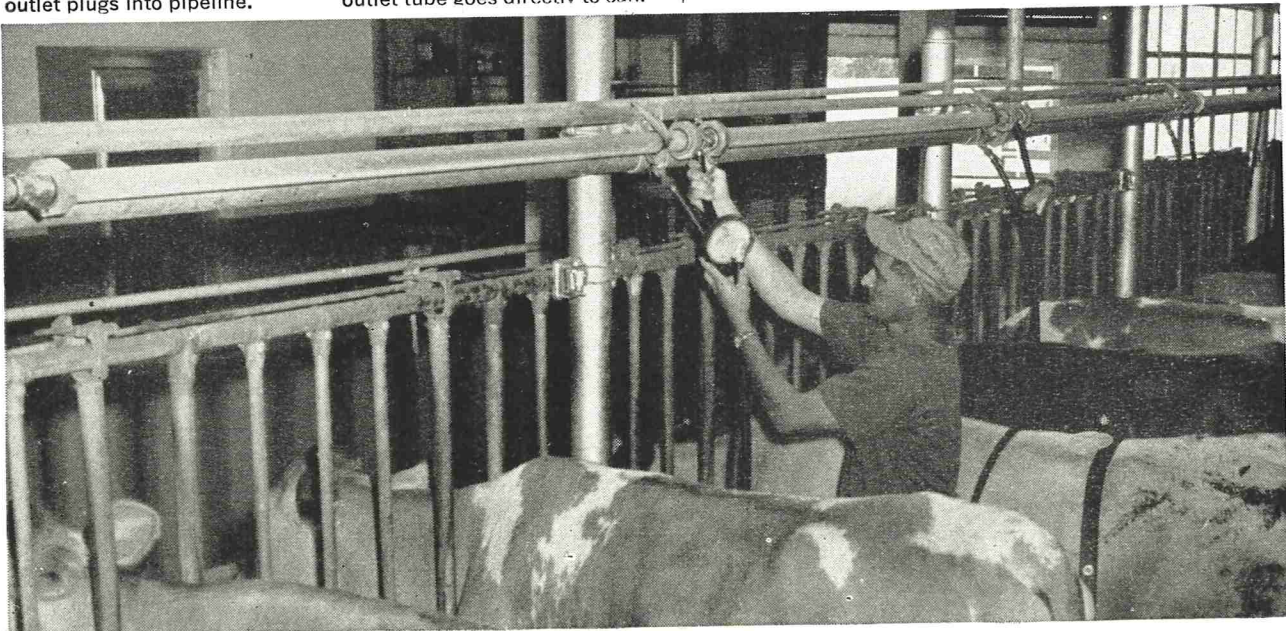
Please send me complete information on the new RAPID-FLO® Filter Holder.

Name.....

Address or RFD.....

City.....State.....

©1962, Johnson & Johnson, Chicago, Illinois



**WHILE YOU'RE LOOKING AT
IT YOUR LIQUID BLEACH SAN-
ITIZER IS GETTING WEAKER
AND WEAKER. AND WEAKER
AND WEAKER AND WEAKER.
AND WHAT ARE YOU GOING
TO DO ABOUT IT?**



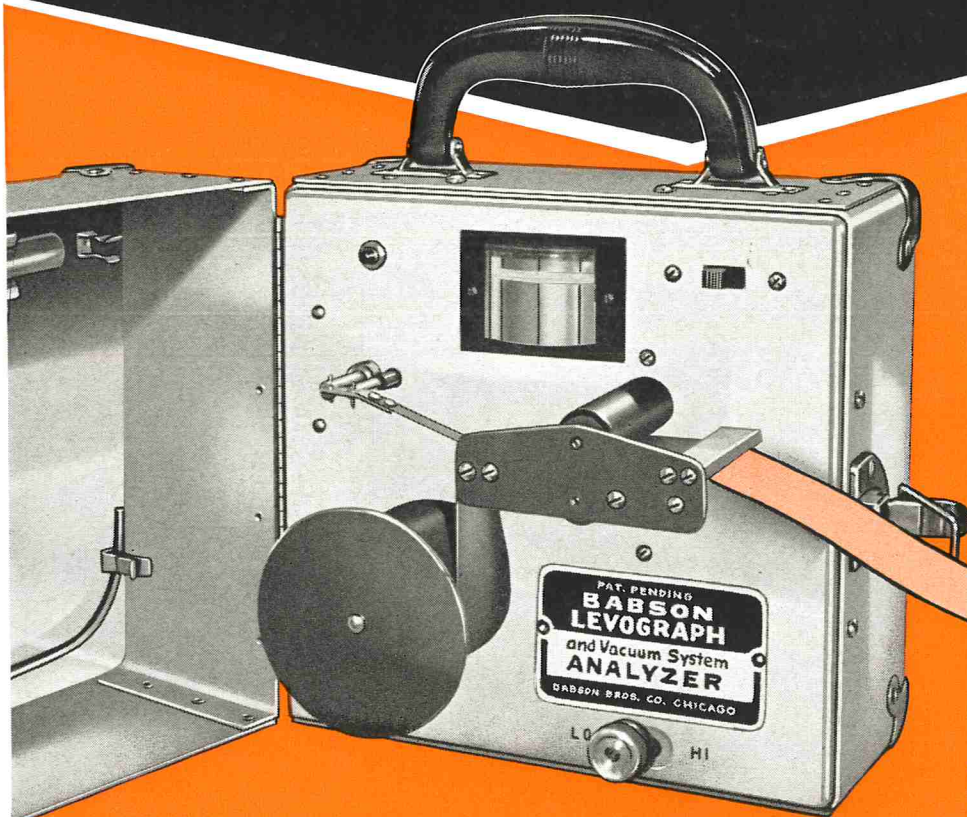
You can't do anything about it, that's the way liquid bleaches are. The only thing you can do about this problem is avoid it. By using a dry chlorine sanitizer like Lo-Bax® Special. Lo-Bax can be stored indefinitely without loss of strength. Each and every gallon of sanitizing solution that farmers make with Lo-Bax is as strong as they expect it (and need it) to be.

And they avoid a lot of coming and going to buy jugs of liquid bleach: a single 1 $\frac{3}{4}$ -pound bottle of Lo-Bax makes over 1000 gallons of sanitizing solution. Write for more information about Lo-Bax Special and LoBax®-W (which contains a wetting agent). When you think about the problems it solves for both your farmers and you, Lo-Bax gets better and better and better.



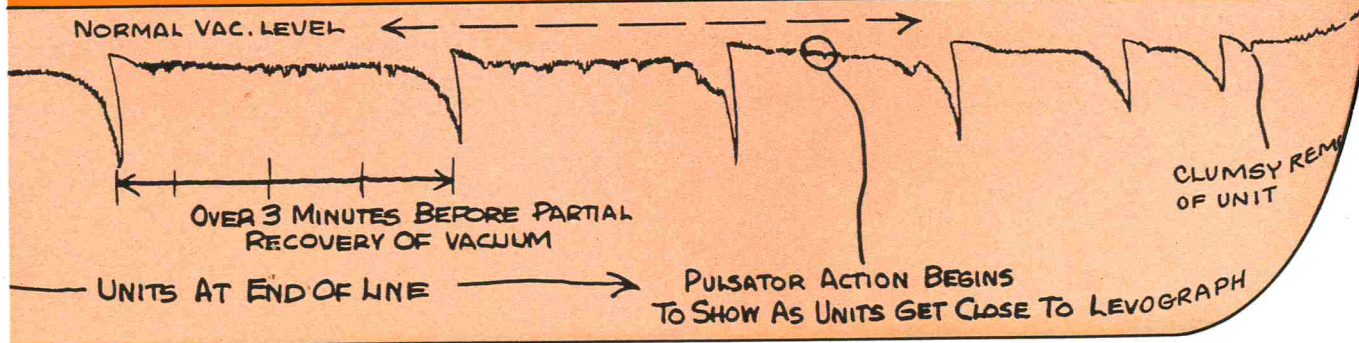
CHEMICALS DIVISION 
745 FIFTH AVE., NEW YORK 22, NEW YORK

Constant vacuum is important in mastitis control



**MASTITIS
CONTROL
IS IMPORTANT
TO QUALITY
MILK CONTROL**

Babson Levograph
and Vacuum Analyzer



This is not the same kind of an instrument that has received considerable publicity. This is brand new in 1963. The Babson instrument is different in that it remains attached to the Vacuum System during the entire milking operation. The Dairyman and his SURGE Dealer can spot every vacuum variation and trace its cause.

Recommend a free vacuum analysis for the dairymen you serve.

SURGE is a Babson Bros. Co. trademark.

© Babson Bros. Co., 1963

BABSON BROS. CO.

2843 WEST 19th STREET • CHICAGO 23, ILLINOIS

SURGE