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MILK and FOOD TECHNOLOGY

Official Publication

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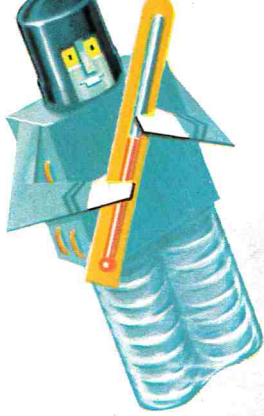
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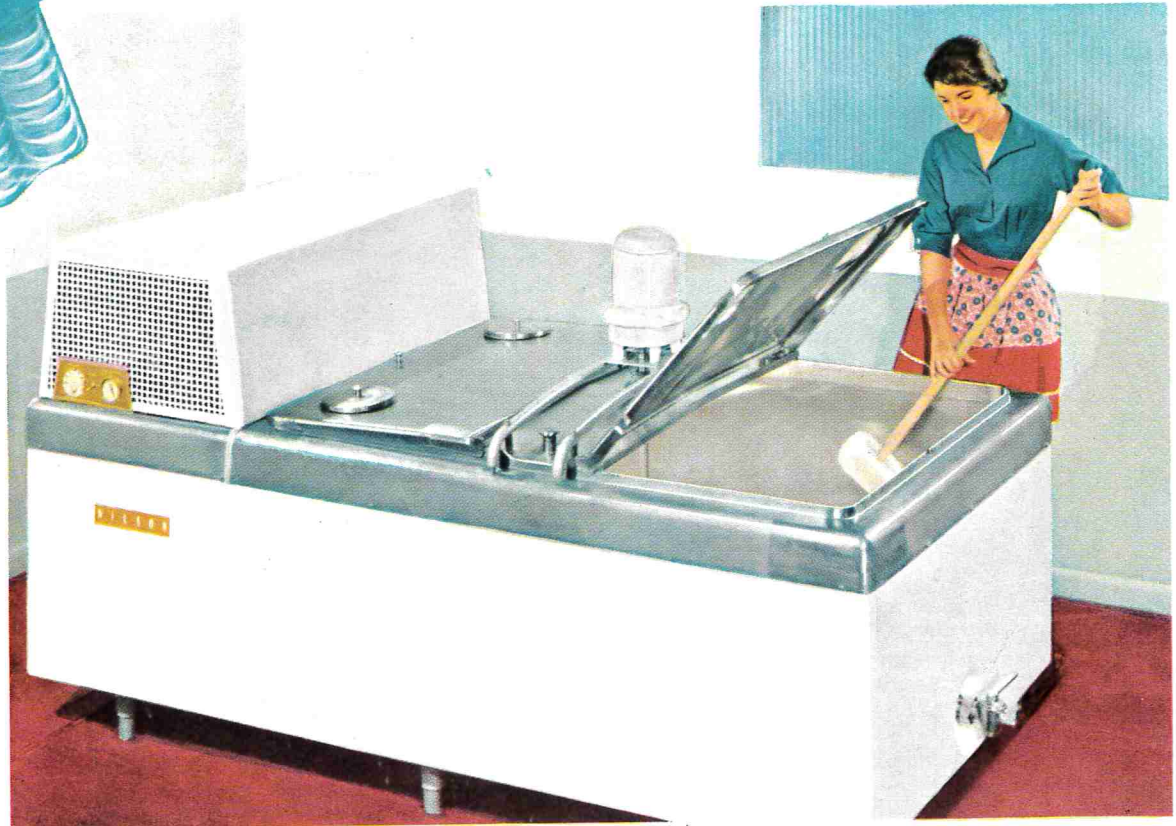
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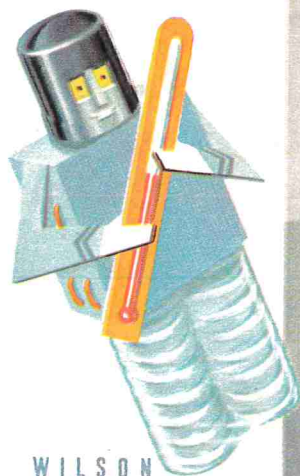
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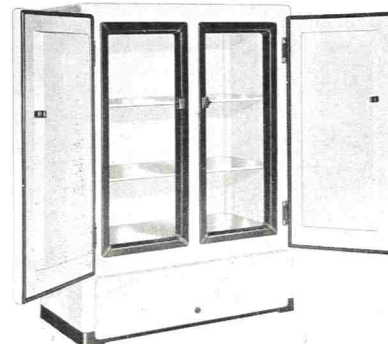
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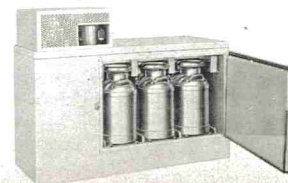
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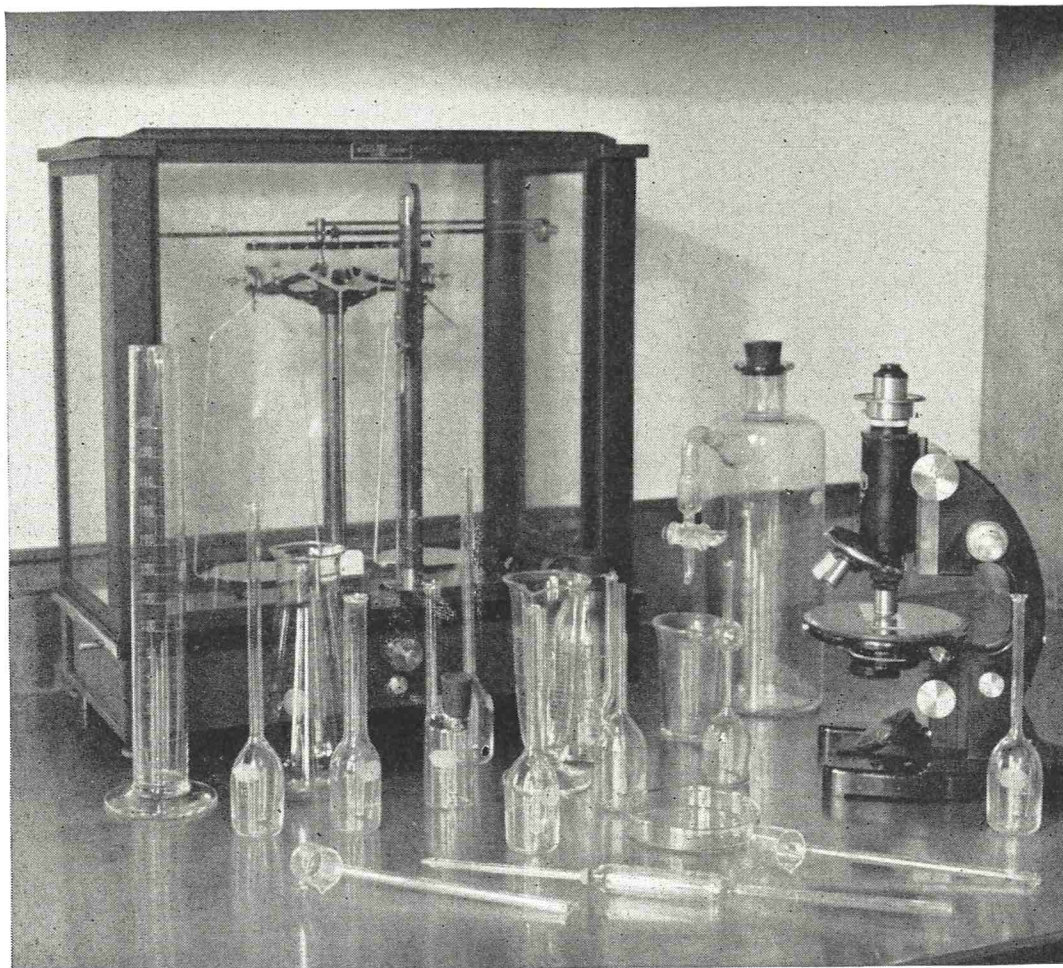
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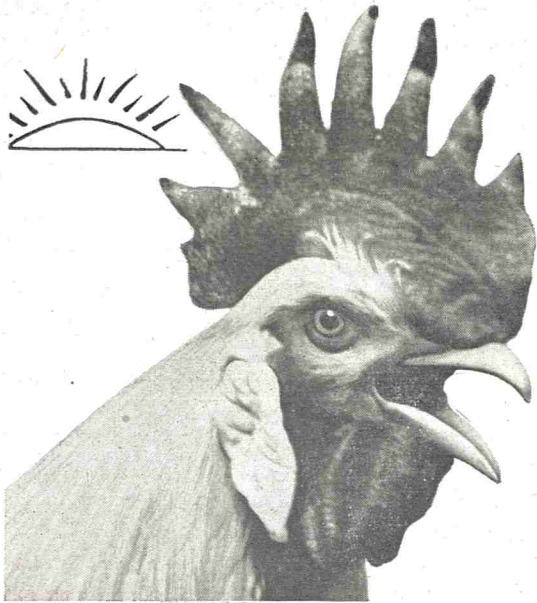
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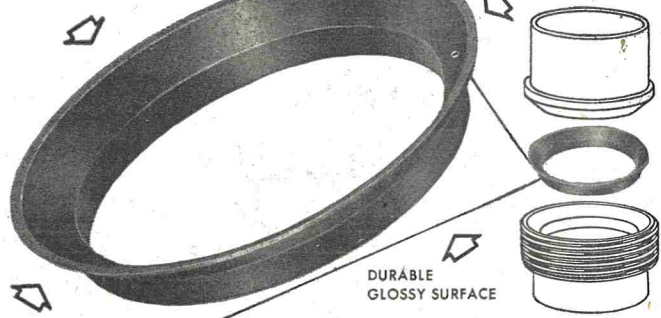


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VIRGINIA'S TOURIST ESTABLISHMENT SANITATION PROGRAM¹

JAMES W. SMITH

Virginia State Department of Health, Richmond

As a rule, regulatory measures are enacted only as needs and demands of the public are demonstrated. This was certainly true as regards the development of a tourist establishment sanitation program in Virginia; therefore, a review of the birth of Virginia's tourist establishment sanitation program is essential to a full realization of its scope and accomplishments.

The Virginia Department of Agriculture, prior to 1942, was charged with the responsibility of administering outmoded laws which prescribed sanitary requirements for hotels, service stations and trailer camps, as well as restaurants; but there was no restaurant law or rules and regulations. The law just said it was somebody's responsibility to enforce a non-existent law.

In 1942, the General Assembly of Virginia, in what was known as the Reorganization Act, transferred the aforementioned activities from the Department of Agriculture to the State Department of Health. With the advent of World War II, personnel were not available and money for the service was equally as scarce. Therefore, with only scattered local city and county food establishment ordinances in effect and the outmoded laws previously mentioned, little real progress was made.

Just prior to World War II, an increased travel trend was noted with interest by local and Statewide agencies and by individuals who envisioned an improved economy for the State. The general idea caught on, and the Virginia State Conservation and Development Commission and State and local Chambers of Commerce were advocating to the General Assembly a Statewide clean-up of places catering to tourists. There was then formed within the State a volunteer organization composed of hotel, motor court, restaurant, and petroleum representatives, as well as representatives of women's clubs, garden clubs, service clubs and others. The name of the new organization was "The New Virginia", a forerunner of the Virginia Travel Council. Finally, the General Assembly of Virginia, during its regular session of 1946, directed the Virginia Advisory Legislative Council to make a study and report on existing statutes and regulations governing certain establishments serving the tourist trade, in the following language:



Mr. James W. Smith is the Director of the Bureau of Tourist Establishment Sanitation, Virginia State Health Department. He has been a member of the Health Department staff since 1921 serving in several branches of the department. Mr. Smith is a member of the Virginia Association of Milk and Food Sanitarians and currently is President, Central Atlantic States Association of Food and Drug Officials.

"Be it resolved by the House of Delegates of Virginia, the Senate concurring, That The Virginia Advisory Legislative Council is directed to make a thorough study and report on existing laws and regulations governing the sanitation of hotels, tourist camps, restaurants, filling stations and other similar establishments catering to our transient visitors, to the end that more effective inspection, regulation and control may be obtained by appropriate legislation; and,

"Be it further resolved, That the Council report its findings and recommendations to the Governor and the General Assembly, on or before September one, nineteen hundred and forty seven, together with appropriate legislation to carry its recommendation into effect."

The Council appointed as its chairman a member of the Senate. Other members consisted of a representative of the State Conservation and Development Commission, the State Chamber of Commerce, the State Police, the State Department of Health and an officer of the Motor Court Association.

¹Presented at the 44th Annual Meeting of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC., at Louisville, Kentucky, October 7-10, 1957.

The Committee held several meetings and one public hearing, after due publicity, which was well attended. Evidence was presented to the Committee that, while many hotels, tourist camps, tourist homes, restaurants and service stations were endeavoring to maintain a degree of sanitation acceptable to tourists, a great many such places were a disgrace to the Commonwealth. Altogether, an array of evidence was presented to the effect that the sensibilities of tourists were being offended and that the tourist trade was being adversely affected because such conditions continued to prevail.

The Committee reported that the State Department of Health, charged with the responsibility of inspecting hotels, motor courts, restaurants, etc., was handicapped by being unable to pay inspectors salaries commensurate with those paid in private industry and also that only a fraction of the number of inspectors required to execute the job could be retained by the State Health Department under its present budget. Therefore, the Committee recommended as the first step in the encouragement of a greater travel industry for the State the appropriation of sufficient funds to provide adequate inspection services.

It was discovered that the laws of the State governing establishments catering to the travel trade, had been enacted over a long period of years as required by developments, and that many were archaic, outmoded and as a whole totally inadequate to meet present needs.

For this reason, the Committee submitted proposed statutes which it believed highly desirable to have enacted into the laws of the State by the General Assembly of Virginia. The Committee believed them to be fair and reasonable; and that proper observance and/or enforcement would satisfy the demands of the traveling public. An expansion of the tourist trade would protect and enhance the investment of the more than 16,000 business establishments directly dependent upon such revenue. The tourist trade had almost proven itself to be depression-proof and was capable of absorbing large numbers of unemployed during periods of national depression.

The Committee drafted four laws prescribing sanitary regulations for transient lodging facilities, service stations, trailer camps and restaurants, and expressed the opinion that the cost of enforcement would prove to be the cheapest and most effective way of advertising the beauty within the borders of this Commonwealth. All four laws were enacted at the 1948 session of the General Assembly and funds appropriated for administration and enforcement by the newly created Bureau of Tourist Establishment Sanitation

within the Health Department's Division of Local Health Services.

Trade organizations heartily supported the proposed bills which were enacted into law. The Virginia Restaurant, Hotel Motor Court, Tourist Home and Petroleum Associations were called in soon thereafter to study the laws and to suggest clarifications in the form of Rules and Regulations to be adopted by the State Board of Health. The opportunity to participate in this study was much appreciated by all aforementioned organizations, for they were having a real part in the formulation of rules which were to govern their businesses. It also provided further opportunity for the leaders of the industry and those persons who were to direct the newly established service to become better acquainted. It had a tendency to dispel natural fears of ruthless enforcement by untrained and power-thirsty sanitarians. It, and subsequent events, led to a general feeling of mutual interest and respect between the enforcement agency, and the managers of most of the more than 20,000 establishments, who are still as individualistic as farmers were thought to be a generation ago. There is no intention to give the impression that there have been no rough spots during the past nine years; there have been several hundred closures each year of a dirty fringe that either could not or would not meet reasonable requirements. As evidence that the program is loyally supported by the travel agencies, the general public and the courts, less than one-fifth of the 571 places closed last year were willing to defend their records in court.

Annual permits to operate are required of all establishments except service stations. For administrative purposes, the State is divided into twelve districts at the present time. All letters of warning, revocation of permits, and time extensions on the advice of district sanitarians having jurisdiction are in writing, addressed to the manager and signed by the Director of the Bureau at the Richmond office. Also, permits to operate are mailed from the Richmond office, except those for restaurants and trailer camps located in organized health districts where the Commissioner delegates the responsibility to the Health Director having jurisdiction.

The Bureau's staff consists of a director, a general supervisor, a chief hotel sanitarian, two food consultants, two food sanitarians, twelve district sanitarians, one secretary, one stenographer and one clerk. The work load on the Health Department's Tourist Establishment Sanitation program is as follows:

Food Establishments	11,032
School Cafeterias	1,073
Trailer Courts	365

Service Stations	5,728
Hotels	485
Motor Courts	1,137
Tourist Homes & Classified Lodging	1,910

Special activities include:

1. Giving sanitary supervision of food services in penal institutions, mental hospitals and tuberculosis institutions.
2. Acting in an advisory capacity to the aforementioned institutions on food service equipment.
3. Conducting food service personnel classes in these institutions.
4. Assisting local health departments with food handlers' classes. Certificates of Attendance are awarded those attending a minimum of three hours of instruction. More than seven thousand certificates were awarded last year.
5. Performing ratings of food sheds and reporting to the Commissioner and Director of Local Health Services on the status of this service in the several health jurisdictions.
6. Giving seasonal assistance to local health departments situated in resort areas in their program of restaurant sanitation.
7. Enforcing all four laws in the absence of a full time health department service.
8. Supplying supplementary service in organized counties and cities where service is ineffective or where personnel is inadequate to provide service.
9. Assuming sanitary control of food services on boats or ferries plying Virginia waters.
10. Reviewing plans and specifications for swimming pools to be installed at transient lodging places, and issuing permits for the installation.

As an example of Virginia's Bureau of Tourist Establishment Sanitation's versatility and mobility, the increased load imposed this year by the Jamestown Festival was handled by local health departments without hardship since the Bureau's food sanitarians were on loan to those departments most directly affected. Also, several sanitarians, since May 1, have made thousands of additional inspections of homes which agreed to open their homes to tourists in the Jamestown - Williamsburg - Newport News - Virginia Beach areas. No person has been required to forego either lodging or food even during peak travel periods in these areas.

Virginia's travel industry is currently worth between three-fourths billion and one billion dollars annually, as against ninety-eight million in 1946. A generous amount of credit is given the Virginia State Health Department by those interested in increasing the value of the travel industry because of the impartial enforcement of sanitation laws having Statewide application.

By land, sea and air, thirty-five million residents of other states and nations will visit Virginia this year. The tourist business is the second largest industry in the State, and it touches every segment of Virginia's economy. It's just good business to foster it. If an acceptable job of salesmanship in interpreting and enforcing the several laws has been done by the Virginia State Health Department, it is largely because of the splendid and friendly support of one of the most aggressive and alert Travel Councils in the Nation, State and local Chambers of Commerce, the State Conservation and Development Commission, and the wise leadership of the several trade organizations, and the support of the public. It is, in any event, a demonstrable example of a health activity paying off in dollars and cents, as most of them do.

SOME FORMS OF ADULTERATION IN DAIRY PRODUCTS¹

A. H. ROBERTSON

New York State Department of Agriculture and Markets,

Albany, New York

In this report a type of regulatory activity which often may escape the attention of sanitarians will be discussed. Consequently, instead of confining my discussion to sanitary adulterations of dairy products, my report will recognize the analytical work of public servants across this country who are active in preventing fraud, deception and misrepresentation of dairy products before these foods get to the consumer. Misrepresentation of products must be controlled to prevent unfair competition with reputable processors who handle, manufacture and sell the majority of all dairy products.

In addition to fraud prevention, the dangers from contamination with toxic materials and with insects, insect parts, insect and rodent excreta and other forms of filth are not ignored. In the time permitted, only a few of the more common and one or two unusual violations of the Pure Food Laws and the means to detect them will be mentioned. The subsequent remarks represent personal opinions and may not conform with the opinions or policies of the Department of Agriculture and Markets of the State of New York.

ADDED WATER

Added water is universally the cheapest adulterant of fluid milk and many other dairy products. Some adulterants, like water, may be added accidentally, some intentionally, and sometimes excessive amounts of water or of other foreign residues, as judged by standards of identity, are left in manufactured products. Where standards of identity are recognized for manufactured dairy products, official methods of analysis may be used to determine the moisture content of these foods. In the absence of standards of identity, determinations to establish freedom from adulteration often depend upon a broad knowledge of the normal characteristics of the unadulterated food and the interpretive skill of the chemist and administrator.

An illustration of some of the problems of assuring uniform moisture content throughout a batch of cottage cheese and similarly a uniform moisture and fat



A. H. Robertson is a graduate of the College of Agriculture at Cornell University. Since 1930 he has been Director of the State Food Laboratory, of the Department of Agriculture and Markets, Albany, New York.

Mr. Robertson served from 1943 to 1953 as Chairman of the Committee for editing the Ninth and Tenth Editions of *Standard Methods for the Examination of Dairy Products*, published by the American Public Health Association. He also aided in editing the Eighth Edition of *Official Methods of Analysis of the Association of Official Agricultural Chemists*, and is a member of several committees of that Association.

content in creamed cottage cheese may be worthwhile. It is essential that the food in each package which the consumer pays for conforms in composition to minimal standards of identity for each product. Usually, it is demonstrable from the weights and composition of the materials combined by the manufacturer that he has adjusted the moisture and fat content (latter in creamed cottage cheese only) so that they meet the minimal standards for the batch. Despite this certainty, completely uniform distribution of the moisture and fat by mixing is less certain and maintenance of the distributed state is still less certain because, as the cheese is stored before sale, progressive separation of these components takes place, particularly if the temperature of the cheese is allowed to rise to that usually found in display cases from which bulk sales are made.

¹Presented at the Annual Meeting of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC., at Louisville, Kentucky, October 7-10, 1957.

Because of leaching and separation tendencies, the manufacturer may select one of two or more methods to overcome possible fat deficiencies and possible moisture excesses in the food as sold to the consumer. He may offer the food in consumer-size packages with minimal manufacturing tolerances above the composition requirements so as to escape possible violations, or he may sell the cheese in larger containers, portions from which are to be weighed into packages for the consumer by the retailer, in which case the composition tolerances must be somewhat larger in order to assure that no portion sold will be deficient in milk fat or contain moisture.

When preparing official samples for removal of test portions, it is best for the chemist to condition the entire amount purchased in order to recombine uniformly any portions which may have separated by leaching. A caution on the prolonged use of an electric blender is needed because the composition of the official sample is changed progressively by moisture losses as the temperature in the blending jar increases. To assure a uniform blend without undue scatter of portions of the sample on the cover of the jar and on the walls above the sample level, a rheostat in the line permits starting at a lower speed. After operation for 30 to 40 seconds, the speed may be increased so as to produce a uniform creamy mixture before transferring the test portions. Time limit for conditioning the sample should not exceed 2 minutes.

Added water in fluid milk at the producer level will continue to be a perennial problem. However, the amount of inescapably added water in retail milk supplies under good management conditions seldom exceed 0.2%. Despite this low figure on market supplies, there will always be a few producers who accidentally or intentionally add proportionately larger amounts of water to milk. Careless preflushing and post-flushing operations of pasteurizing and bottling equipment, and also careless cleaning methods for milking machine pipe lines, may result in milk and water mixtures where the added water content in the first ten gallons of mixture from the equipment may be as high as 15 or 20%. Such practices are both uncommon and inexcusable.

By skillfully using the lactometer and a record of the usual fat composition of each producer's milk, it is possible for an inspector on the milk receiving deck to identify nearly all individual supplies which contain detectable amounts of added water and/or from which milk fat has been removed. Each year in New

York State routine inspections at milk receiving plants reveal the identity of producers who deliver watered and/or skimmed milk. Tests at the laboratory usually confirm the field records. We are not proud of this situation, and no doubt other states and cities have records which they prefer to conceal.

Wherever it is possible to compare the composition of a producer's sample taken at the farm, usually collected within an interval of a week after taking a delivery sample, with the composition of the latter suspected of adulteration, it is not difficult to detect whether the milk has been watered, skimmed, or both. Where no comparison samples are available, such forms of adulteration are more difficult to detect. In such cases, minimal composition standards for fat and total solids in fluid milk are among the remaining guides available to the milk sanitarian.

Comment on the freezing point method for the objective determination of the presence of added water in fluid milk and cream is appropriate. The need for the recent survey on milk cryoscopy was created by reports which tended to undermine the value of this official test which has been recognized for nearly 40 years. Admittedly the directions for performing the test needed some clarification and revision, but the major difficulty centered around misinterpretation and misuse of the results, particularly by a few less well informed regulatory officials. Interpretation of freezing point data will continue to be a problem because of unpredictable conditions in individual herds at the time milk samples are taken. The new data should restore confidence in the method and should show the ultra need for interpretive caution in those cases where a marginal degree of adulteration is suspected.

BUTTERFAT TESTS

That fat tests by the routine Babcock method do not always agree with tests using the ether extraction Rose-Gottlieb method is not a new revelation. Experience shows that fat tests on fluid milk by the Babcock method are apt to average from 0.02 to 0.03 percent above tests by the Rose-Gottlieb method. On composite samples the trend is in the opposite direction by a similar amount. Because of these opposing tendencies, a modification of the Babcock technique would cause the results on either the preserved or the non-preserved samples to be more divergent from those by the Rose-Gottlieb method than they are. For this reason it would seem best not to change the present Babcock technique unless a modification is proposed which will eliminate almost com-

pletely the major source or sources of error. One of these is the wide tolerance for graduations on the necks of test bottles. It is estimated that about 500,000 tests on composite milk samples are made in New York State annually and that an equal number of tests are made on non-preserved fluid milk samples. Some have hoped that one or more of the recently proposed detergent type modifications of the Babcock method could be substituted for the recognized Babcock test procedure. Because recent information discloses that the detergent type modification is not applicable to composite samples, it seems doubtful that much interest can be aroused in this type of modification. However, a current need is for recognition of an acid digest type of method suitable for determining the fat content in homogenized products. There is reason to believe that the Association of Official Agricultural Chemists will encourage a properly organized comparison using one or more promising methods for fat determinations in homogenized fluid milk and cream and in frozen desserts. It would be well to include the Gerber method in such a comparative study. The first step in organizing such a study is to appoint a referee who is sufficiently interested in the work to complete the necessary investigations.

DETECTION OF RECONSTITUTED MILK

The ability to detect reconstituted milk when mixed in small amounts with whole milk is not as encouraging as the sponsors of the method reported it to be originally. The claim was that from 2 to 5 percent of added reconstituted milk could be detected. Comparative tests on mixtures of known composition show that this figure must be raised to about 15 percent. If portions from the same container of powder reconstituted by the chemist and serial dilutions of the reconstituted product are added to an authenticated sample of whole milk from the suspect source, it may be possible to establish the presence of added reconstituted milk when the amount added is substantially less than 15 percent.

BACTERIAL GROWTH INHIBITORS

For about ten years attention has been directed to different bacterial growth inhibitors in milk which appeared to prevent the subsequent normal growth of cheese cultures. In the latest edition of *Standard Methods for the Examination of Dairy Products*, types of these inhibitors were classed as follows:

1. Residues from chemical sanitizers, applied to farm and plant milk-handling equipment.
2. Residues from "sulfa" drugs, used therapeutically.
3. Residues from antibiotics, used therapeutically.

4. Bacteriophages, multiple and miscellaneous.
5. Other unidentified inhibitors.

Our referees selected methods which seemed applicable to the detection of antibiotics, especially penicillin. The increasing demand now is for a selective method to distinguish phage inhibitors from other types. In other words, cheese manufacturers are reluctant to believe that their cultures can become contaminated.

OXIDIZED FLAVOR PREVENTATIVES

A new and unusual type of adulteration is occasioned by the proposed use of a pancreatic enzyme to prevent oxidized flavor in pasteurized fluid milk and cream. Last spring this product was available commercially as a white powder, with directions that a level tablespoonful of it be added to each 40 gallons of milk or cream. The enzyme is active during pre-heating and is inactivated by the time pasteurization is complete. Directions state "If milk is held overnight in a storage tank for short time, high temperature pasteurization, add the enzyme and agitate the mixture about 30 minutes before you start to draw from the tank. Do not add it to milk to be held overnight before pasteurization."

A sample of the enzyme preparation was submitted in an original unopened 1-lb. brown bottle to our Laboratory on May 17, 1957. The bottle was closed with a screw cap and the label bore a batch identification number. Probably the purpose of coding was related to the manufacturer's attempt to keep from use products which may be low in potency due to aging and conditions of storage. Regardless of its potential benefits to retard oxidation, our Legislature has given us no authority to permit the addition of such products to whole milk. If such additions are to be permitted, the Legislature must change the statute.

COMPOSITION OF CHEESE

From 1950 to 1954 appreciable data were collected on the composition of Mozzarella and Ricotta cheeses, both in New York and on a national basis. Based on these records, the New York State Legislature enacted definitions to identify the composition of these two products. In 1956 it was discovered that these definitions, which at one time had been endorsed by the New York State manufacturers of these Italian cheeses, failed to satisfy Mozzarella cheese manufacturers in another large cheese producing state. The latter wanted to make a drier Mozzarella cheese by adding appreciable amounts of reconstituted skim

milk powder to the milk before setting the curd. This made a product which, when sold in competition in the New York markets, failed to conform in composition to the Legislative definition for Mozzarella cheese. A vigorous effort continues among manufacturers to disguise this product by representing it under identifying name, "Pizza Cheese."

During 1956 and continuing in 1957, more than 50 samples of Mozzarella cheese, identified as Pizza cheese, have been submitted to the Laboratory. It now appears that two related Italian families in the New York metropolitan market are trying to undermine each other's business in the sale of Mozzarella cheese. One of these families is particularly interested in promoting the sale of Pizza cheese. Since the article of food is made similarly to regular Mozzarella cheese, and since to the consumer it resembles Mozzarella cheese in appearance, texture and flavor, there seems to be no need to recognize officially the coined identity, Pizza cheese, which allows proportionately more water to be sold for the original amount of fat and total solids in the milk and the substitution of the less expensive solids in skim milk powder for the more expensive solids in whole milk.

FOREIGN FATS IN DAIRY PRODUCTS

Late last year the recurrence of an old type of adulteration was discovered. In 1882 and 1884, when the first Pure Food Statutes were enacted by the Legislature in New York State, these laws contained specific prohibition on mixing oleaginous fats in cheese and in butter made from cow's milk. Evidently this form of adulteration and misrepresentation was practiced in the last half of the nineteenth century. In 1956 and continuing in 1957, two different manufacturers, one in New York City and one in Rochester, were found to be using vegetable fats by reconstituting and homogenizing them with skim milk powder before the mixture was manufactured into a product resembling cheese. The proportion of the vegetable fats was sufficient so that after getting a refractive index reading and the Reichert-Meissl and Polenski values on the extracted fat, it was possible to conclude that vegetable fat was present in the product resembling Mozzarella cheese. This year the Laboratory has examined more than 40 such samples containing vegetable fats.

Those who have watched the trend since 1952 in the sale of Mellorine type products know how disturbed some manufacturers of frozen desserts were when they wanted a simple color test for use by the plant foreman to distinguish between ice creams and

Mellorine type products. Analytical miracles to identify mixture of fats of different species origin at low concentrations have not occurred. Mellorine is here to stay and its use is spreading in some places and slowing up in others. Flavored, a good Mellorine product is indistinguishable organoleptically and in appearance from ice cream.

Refined hydrogenated, edible cottonseed and soy oils will be used in Mellorines. Some corn and peanut oil may be used in Mellorine. Certain rearranged non-lacteal fats of animal origin are often added to selected vegetable fat mixtures in such portions, usually with small amounts of milk fat, so that the resultant blends have many of the analytical constants that are indistinguishable from those of pure milk fat. Mindful of these possibilities, the Association of Official Agricultural Chemists has re-examined the older analytical tools and is searching for new ones. A method for butyric acid value to identify fats of milk origin shows the most promise as new tool. Use of this method in conjunction with other tests will permit the identification of mixtures containing vegetable fat even where the operator has attempted to disguise the vegetable fat mixture by adding commercial butyric to it. Refinements have been added to the older methods.

FUTURE TRENDS

A look into the future may be timely. American progress, demonstrated by the recently accelerated rate of commercialization to improve foods, creates a formidable task for future food chemists. The challenge involves both the identity of the new additive in trace amounts and its quantitative determination to discover whether it may be present in amounts which either may be dangerous or exceed a recognized tolerance. National thinking on food additives may be influenced to some degree by the current rate of increases in the global population, by the world-wide use of antibiotics and other miracle drugs to save lives, and by recurring visions of the Malthusian ghost of hunger. As evidence of this trend, a paragraph from a report listing nearly 1,000 food additives, by the Food Protection Committee of the National Research Council, issued in February 1956 as Publication No. 398, is quoted:

"Intentional chemical additives have been defined by the Food Protection Committee as those chemicals introduced for the purpose of imparting some desired quality to, or of serving a functional purpose in, a food product. Such materials as coloring agents, flavors, non-nutritive sweeteners, nutrients for food

fortification, preservatives, antioxidants, emulsifiers, and bleaches are all intentional additives. They are added to the food product in carefully controlled amounts during processing. No distinction is made between synthetic chemicals and those isolated from natural products."

Many are aware that food additive legislation was introduced in the 1957 Congress. While this Congress did not enact such an amendment to the 1938 Food, Drug and Cosmetic Act, no doubt a future Congress soon will do so. Legislation similar to that in the Miller Amendment for Pesticides is needed to keep dangerous chemicals from being used promiscuously by less well informed food processors.

To illustrate the potential need and how it is now being handled by a visionary group of chemists for just one item of commerce, attention is directed to the work at Syracuse University under the directorship of Dr. Ernest Reed on Migration Studies Concerning Ingredients of Paper Milk Bottle Carton Adhesives. Dr. Reed serves as Chairman of a Public Health Advisory Council on the sanitation and safety of certain types of paper packaging materials for liquid and/or wet foods. This investigation involves the use of chemicals with preserving and/or other functional properties in adhesives. Dr. Donald Lundgren and Dr. Reed, guided by suggestions from Dr. Arnold Lehman, of the Federal Food and Drug Administration, have completed many controlled ex-

periments, usually based on the amount of chemical extracted by distilled water from the adhesive as applied to the carton. Some experiments have included feeding tests with the chemical.

The pioneering work started about 5 or 6 years ago when a need for it became urgent. In some of the tests, radio-tracer techniques have been used to identify and measure the migrant in the distilled water. Among the chemicals tested to determine their migration are:

- Polyvinyl alcohol
- Polyvinyl acetate
- Dowicide A (orthophenyl phenol)
- Roccal (a quaternary)
- Cuniphen, G-4 (a chlorinated methane)
- Gulilate (Cu-8-quinolinolate)
- Arquad 12 (a quaternary)
- Tamol N (a sulfonate salt)
- Duponol ME (Na lauryl sulfate)
- Phenol
- Formaldehyde
- Darex 811 (a vinyl acetate resin)

This survey records progress to control violations of the Pure Food Laws dealing with a variety of dairy products. The type of investigation, such as that on migration of chemicals in adhesives used in paper milk bottles, is to be highly commended.

· FORTY-FIFTH ANNUAL MEETING, IAMFS, Inc.

NEW YORK STATE MILK SANITARIANS ASSOCIATION

CORNELL DAIRY CONFERENCE

HOTEL NEW YORKER — N.Y.C. — SEPTEMBER 8, 9, 10, 11, 1958

SOME OBSERVATIONS ON MILK SANITATION IN EUROPE¹

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During a brief sojourn at Geneva in June, and later subsequent to the International Dairy Congress at Rome in September, 1956, I learned something about milk sanitation in several European countries. On the strength of these visits I am certainly not posing as an authority on European dairying! Nevertheless, some of the information gleaned may be of interest to those engaged in milk production, processing and control in North America.

As might be expected, considerable variation was encountered from country to country. However, one thing that struck me was the absence of the sharp distinction between fluid milk and milk for manufacturing purposes that is current here. Generally there is a single standard milk quality regardless of its ultimate destination. This is no doubt the chief reason that in the main dairying countries, the butter and cheese are of such excellent quality. Milk is not regarded as a beverage for adults - there are others widely consumed there that have much more appeal! Nevertheless, the total consumption of milk equivalents - principally as cheese and yoghurt - is high in Northern Europe, often higher than here in North America.

ANIMAL HEALTH

Any discussion on milk sanitation should logically start with the health of the dairy cattle. Many European countries have lagged behind North America in eliminating bovine tuberculosis. One reason for this, no doubt, is that it has been traditional in many European countries to boil the milk as soon as it reaches the home. Therefore, the transmission of this disease has not resulted in the same problem there as it has in North America. However, bovine tuberculosis has been banished from Norway, Denmark and Holland and is practically gone from Sweden and Switzerland. In England and Wales, over 70% of the milk comes from tuberculosis free herds; in Scotland the figure is appreciably higher. Brucellosis has been eliminated in Sweden and is practically gone in Denmark, Holland and Switzerland. Mastitis is less of a problem in areas where the herds are small and milked by hand. Where herds are larger and are



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milked by machine, it is a serious problem. In most countries antibiotics to combat mastitis are available only through the veterinary profession. In Denmark and Sweden the law also requires the veterinarian who treats a cow for mastitis to notify the plant to which the milk is shipped. Denmark appeared to be attacking the mastitis problem most vigorously. The Federation of Danish Dairy Associations has established over 20 bacteriology laboratories for mastitis control, and 5 diagnostic laboratories for brucellosis. In addition, the Trifolium Dairy in Copenhagen is carrying on the most extensive campaign against mastitis I have encountered. Monthly checks are made on each producer's milk for mastitis. Samples from infected herds are taken by veterinarians and the causative organisms determined in the plant laboratory. Treatment is carried out by the veterinarians and advice given to the farmer. As a result of this program, *streptococcal mastitis had been eliminated from 60% of the herds*, some of which had been free for over six years.

¹Presented at the Tri-Cities Dairy Technology Society Meeting, Louisville, Kentucky, October 8, 1957.

DAIRY FARM SANITATION

Because facilities for adequate cooling below 50°F. are rare, more attention appeared to be given to *clean* milk production - to keeping bacteria *out* of the milk instead of relying on efficient cooling to keep down bacteria counts. This is an important lesson we in North America need to learn, for cooling, especially in farm bulk tanks, can cover up some undesirable production practices. A low bacteria count does not guarantee a cleanly-produced product. The milking barns I saw were not fancy (Figure 1) but were clean

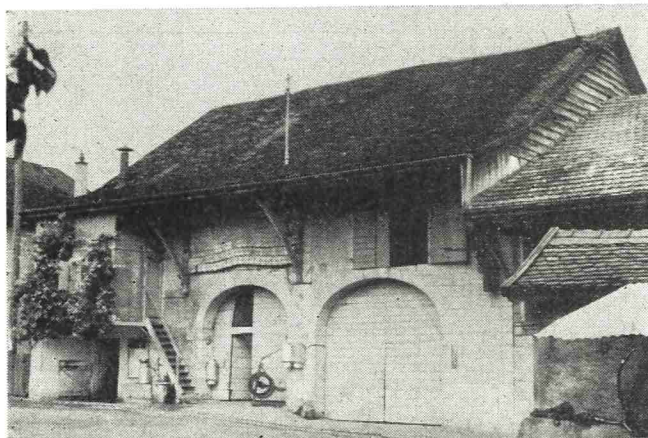


Figure 1. A dairy barn near Geneva, Switzerland.

and the cattle were very clean and well-bedded. Yards are generally paved, particularly in Britain. Inspection of farms varies in frequency. Copenhagen heads the list with monthly visits. On the Continent such work is generally done by veterinarians; Copenhagen employs 143 to cover their milk supply! An interesting development in Southern England is a mobile milking shed where six cows at a time are fed their concentrate and milked by machine (Figure 2). These

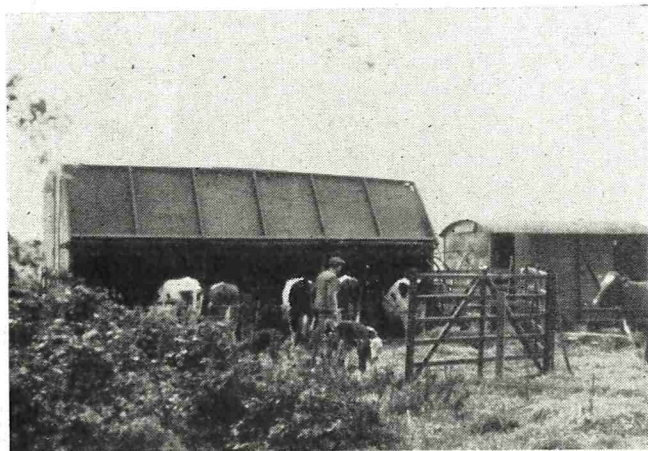


Figure 2. A mobile milking shed in the South of England.

sheds are moved once or twice a day to fresh ground to prevent churning up the mud in the fields. The cattle remain out-of-doors all year round. Over 500 of these units are now in use.

The straining of milk is being discouraged in many countries and in Switzerland it is prohibitel by law. More emphasis is placed on having cows' udders and teats properly cleaned before milking.



Figure 3. Apparatus used in the immersion cleaning method for direct-to-can milking machine equipment.

Although chemical germicides are coming into the picture in some countries, more emphasis appeared to be placed upon getting the utensils *CLEAN* by the old-fashioned method - a brush and plenty of "elbow-grease". Boiling water is still commonly used for sanitizing equipment, although steam chests are still

common in England. Immersion cleaning of direct-to-can milking machines is a interesting procedure developed by the National Institute for Research in Dairying in England. After each milking the milk is rinsed off the milking equipment. The pailhead, milk hose and cluster are carefully placed inside a container which is lowered into a larger container (Figure 3) filled with 2% lye solution containing sufficient ethylene diamine tetra-acetic acid to act as a chelating agent. Immediately before the next milking, the equipment is removed from the container, rinsed to remove the solution and used for milking. The solution is discarded and replaced monthly. The results with this procedure have been so favorable that it is spreading rapidly, and similar equipment is being developed for bucket-type milkers.

COOLING

Because of the lack of mechanical refrigeration, natural ice or cold enough water, cooling is much more of a problem in most parts of Europe than in North America. In the Geneva area, milk is partly cooled in an open tank at the farm, then taken to the village collecting center after each milking where it is further cooled before being picked up by truck twice a day. In Britain, surface coolers are still in common use, although sometimes the shortage of water and its high temperature makes it difficult to cool milk adequately. Turbine coolers are also common there, and are readily maintained in a sanitary condition. Experimental bulk tank routes now are being operated in England and Scotland by the Milk Marketing Boards, but whether or not this method will become common remains to be seen. On the Continent, milk is transported mainly in 40-liter shipping cans. In Italy and Switzerland these are almost 100% aluminum alloy, and in Denmark around 95%. Collection is usually made in open trucks. In Britain milk is picked up on the highway at the farm entrance, and not at the milkhouse.

EXAMINATION AT PLANT

The milk is commonly checked for odor on the arrival at the plant or receiving station while in some countries such as Denmark it is also tasted. Sediment testing would not appear to be as common as in North America, except in Holland, but there appears to be more emphasis on keeping dirt out of the milk, as indicated by the prohibition of farm straining in Switzerland. Bacteriological quality is most commonly determined by the methylene blue test. While this test in North America is currently regarded as more lenient than the plate count, this is not necessarily

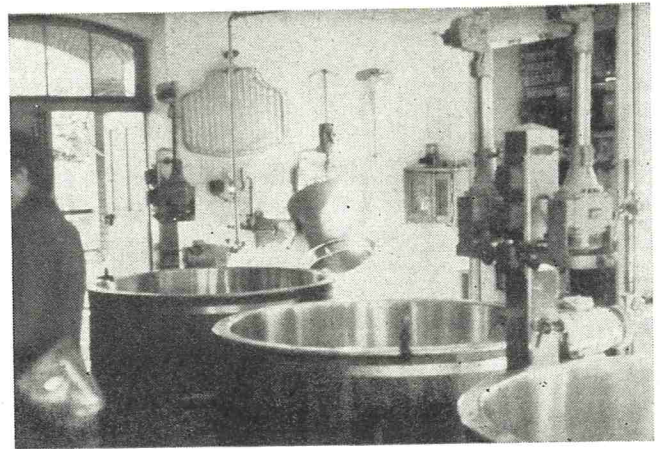


Figure 4. Interior of a small Emmenthaler cheese factory near Berne, Switzerland.

the case where the bacteria are less dormant as a result of less efficient cooling. The general feeling there is that the plate count is much too expensive for routine control and that the methylene blue test gives them adequate information. However, the Trifolium Dairy at Copenhagen have reduced the bacteria count on their milk to such a low level that they have to rely on the plate count to supplement the methylene blue test. In Switzerland, the methylene blue test is run daily, and in Denmark and England weekly. In Scotland a temperature-compensated resazurin test is employed, while in England a 10-minute resazurin test is used as a rejection test on suspected samples. On the Continent the dye reduction test is run on the freshly taken sample, but in Britain the sample, usually taken at the farm, is held at atmospheric shade temperature for approximately one-half day before running the test. Milk that will not reduce in $4\frac{1}{2}$ hours after such treatment in the summer is certainly good milk! This type of methylene blue test, with inversion of the tube every 30 minutes, replaced the plate count in England and Wales in 1937.

The coliform test for raw milk is rarely employed in North America except for "certified" milk. However, several persons in Europe regarded it as the best indicator of clean milking conditions, particularly where farm bulk tanks are used. This test is run regularly by the Trifolium Dairy at Copenhagen. At a Milk Marketing Board plant in Ayrshire, Scotland, only 2 of 16 samples had shown coliforms in 0.1 ml. portions, and this in milk cooled only with water! No wonder cheese from this plant regularly wins top honors at the shows. The Gerber test for fat is commonly used in Europe. In Britain a good deal of time is devoted to testing for solids-not-fat, which have gone down during the last ten years, even though the fat content has remained the same. This

appears to follow quite naturally as a result of their practice of buying milk at so much per gallon without any reference to the fat content above the 3% minimum. Holstein-Freisians have largely replaced the higher-testing breeds.

PAYMENT ON QUALITY BASIS

Except in Britain, milk is generally paid for on the basis of the butterfat content. Where there is a market for it in England, milk containing more than 4% fat may receive a premium of 50c per cwt. There is some interest in using solids-not-fat as a basis of payment along with the fat, and in Friesland, in Holland, they are now paying for milk on this basis. A bonus is sometimes paid for the absence of pathogenic bacteria. In England a bonus of 23 cents per cwt. is paid for milk from either "T.B. tested" or "accredited" herds. If the herd is both "tuberculin-tested" and "accredited" the double premium of 46 cents per cwt. can be obtained. About 70% of the milk gets this double premium. In France a test and slaughter policy for tuberculosis is being adopted and some dealers offer premiums for milk from tuberculosis free herds. The same is true in Belgium. France is setting up regulations for payment according to the methylene blue reduction time while in Belgium 20% of the plants pay on a quality basis. In Switzerland, if over 40% of the milk reaching a collecting center goes for bottling, then payment according to quality is required by law. In Denmark the producer is penalized if there is more than one weekly methylene blue test in the year reduced in less than 4½ hours! As an incentive to quality milk production, the Trifolium Dairy at Copenhagen gives a prize to the herdsman where the yearly average count is under 15,000 and a smaller sum where it is from 15,000 to 30,000 per ml.

ADVISORY SERVICES

In all the principal dairying countries, the need for an advisory service to assist the farmer in producing quality milk is clearly recognized. Sometimes this service is provided by the farmers' organization, as in Denmark and Holland, while sometimes it is a government agency. In England and Wales the National Agricultural Advisory Service, the successor to an agency established during the war, depends upon trained bacteriologists, mainly women, to visit farms in difficulty. They make swab and rinse tests on utensils, check the water supply and generally give advice. This is in addition to routine visits every six months. In Scotland a similar service is furnished through the agricultural colleges. On the Continent,

veterinarians are more commonly employed. The 143 veterinarians concerned primarily with animal health in the Copenhagen milk shed also advise the farmer on milk hygiene, and are entitled to much of the credit for the excellent milk supply there.

PROCESSING FLUID MILK

Processing fluid milk generally follows much the same lines as in North America except that homogenized milk is not nearly so general. Practices vary widely from one country to another; in Berne, Switzerland, 90% of the milk is delivered raw in 40 liter cans to the consumer and is then boiled in the home. This is done primarily to keep down the cost, and around 75% of the price paid by the consumer is returned to the farmer. In Paris on the other hand, practically all the milk is pasteurized and bottled. Much of this is pasteurized at the country receiving station, and then again pasteurized in the city. A high percentage of the milk is pasteurized and bottled in Holland, Denmark, Sweden and Belgium. In England about 5% of the milk is still delivered raw by producer-retailers. Glass bottles are still the standard package, a small necked bottle with an aluminum cap being commonest. In France, Belgium, Holland and in the Midlands of England "sterilized" milk makes up a fair percentage of the total. It has obvious advantages where refrigeration is lacking, and is used mainly in cooking and in beverages.

The visitor from North America is surprised at the extent to which bottled milk is exposed to sunlight. Apparently milk there is much more resistant to oxidized flavor; Dr. A. L. Provan, Chief Chemist of the Milk Marketing Board of England and Wales, said they had deliberately exposed milk to sunshine without developing this defect. It may be that the excellence of the pastures is a factor here.

QUALITY TESTS FOR BOTTLED MILKS

Because domestic refrigerators are still not very common, considerably more attention is paid to the keeping quality of bottled milk. Here post-pasteurization contamination is all-important. In Britain the plate count for pasteurized milk was discarded in 1944 and a keeping quality test - a methylene blue reduction test after holding samples for 24 hours at atmospheric temperature - substituted. If methylene blue is not reduced within one-half hour the milk will normally remain fit for use for at least 24 hours. In Copenhagen the Trifolium Dairy has found that tests on freshly bottled samples were of limited value. They therefore hold samples for 24 hours at 63°F., then subject them to the methylene blue, plate count,

coliform count, thermoduric count and flavor tests. As an indication of the good job they are doing, in 1955 82.4% of the samples were free from coliforms in 1 ml. portions and 56.3% had plate counts under 100,000 *after being exposed for 24 hours at 63°F.* The one plant in Amsterdam that I visited incubates their bottled samples for 48 hours at 63°F. and requires a methylene blue reduction time of more than 2 hours on milk so exposed - a very demanding standard. In England the official standard on pasteurized milks is freedom from coliforms in 1/100 of an ml. This is in striking contrast to Holland where a standard of no coliforms in 5 ml. was encountered. However, firms such as the United Dairies in England realize that a stiffer standard is desirable and require freedom from coliforms in 1 ml. portions.

TECHNICAL TRAINING

The excellent quality records in countries such as Denmark and Holland doubtless reflect the attention given to technical training and the high standards demanded of dairy workers. In Danish dairy plants there are roughly 4,000 trained workers as well as around 1200 apprentices. The latter spend three years in at least two plants, and also attend night classes. This practical training is followed by a six-months course at an approved dairy school before a certificate is granted. After a few years additional

experience, promising young men may take an additional eight-month course at a dairy school. Then, after further experience they can assume positions as foremen, plant superintendents and managers, or they may take a four-year degree course at the Royal Veterinary and Agricultural College. Somewhat similar requirements exist in Holland, where in addition classes of instruction in milking are given to farmers' daughters. Over 5000 may take such a class in a year. In England courses are being given for dairy plant workers at Reaseheath, in Cheshire. We in North America have a long way to go in this direction.

I have tried to pass on to you some of the impressions gained during my brief stays in Europe. With so much variation within some countries, as well as between countries, generalizations can be misleading. We think of Denmark as a country of small farms, yet those supplying Copenhagen run as large as 17,000 acres! While more hand-labor is frequently used on the farm, the Morden plant of Express Dairy Company in London is considered to be the most highly mechanized in the world! Certainly the quality of milk produced in some countries without the aid of mechanical refrigeration and other equipment might suggest that here in North America we have tended to rely too much on efficient cooling at the expense of cleanliness. Whether or not this is true, there is no doubt that we can still learn a thing or two from the dairymen across the Atlantic.

NATIONAL CONFERENCE ON INTERSTATE MILK SHIPMENTS BACKGROUND OF THE CONFERENCE

The sanitary quality of milk shipped interstate as well as intrastate has been a matter of concern to receiving areas for many years. In 1946, the Conference of State and Territorial Health Officers requested the United States Public Health Service to develop a plan for the certification of interstate milk supplies. This plan is outlined in a letter dated December 31, 1946 from the Surgeon General to all state milk control authorities. In 1949, the Association of State and Territorial Health Officers again requested the Public Health Service to assist the states with the problem. Similar demands were made by state health departments and state agricultural departments, local health officials and representatives of the milk industry. In December 1949, representatives of several midwestern states met in Indianapolis for the purpose of discussing the problem and of determining whether some plan could be set up to deal more effectively and efficiently with the interstate milk problem. As a result, representatives of eleven midwestern states met in Chicago, Illinois, in February 1950. At this meeting, a committee was named to investigate the problem and to arrange for a national conference.

This committee requested the Surgeon General to invite all states to have their representatives attend a national conference at St. Louis, Missouri, June 1, 1950. Representatives of industry, state health departments, and state agricultural departments of 26 states attended and participated in the meeting. As a result of group discussions and joint planning, certain basic conclusions and procedures were established to be used in developing and administering inter-state milk control programs that would be in agreement with one another.

The report of the first Conference in 1950 was used to advantage by many states in developing sound and more uniform programs of milk control. As such it was used as a guide for organization and administrative action, and its use has developed a greater degree of reciprocal acceptance between the producing and receiving states. The plan has also been used by many states to set up systems for the supervision and certification of intrastate milk sources, and has assisted many areas to secure better milk supplies for their people.

Subsequent conferences were held in 1951, 1952, 1953, 1955 and 1957 to evaluate the interstate program, to make constructive improvements, and to clarify operating procedures so that the program would more accurately meet the true interstate problem. Public Health benefits to our people and the welfare of the dairy industry, both in the producing and the receiving states, provide ample justification for the continuance of a National Conference on Interstate Milk Shipments.

The last published report of Conference agreements was in 1953. A revision of this report which follows includes the changes adopted at subsequent meetings in 1955 and 1957.

SUMMARY OF AGREEMENTS ADOPTED BY THE FIRST, SECOND, THIRD, FOURTH AND SIXTH NATIONAL CONFERENCE ON INTERSTATE MILK SHIPMENTS 1950-1951-1952-1953-1957

This 1957 conference recommends that the Executive Board shall prepare for and request printing of the revised (1957) summary of agreements, including the constitution, in the *Journal of Milk and Food Technology* in a manner similar to the 1953 report, printed in Vol. 16, No. 5, Sept.-Oct. 1953.

REGULATION

Since there is no widely adopted standard available, other than the Milk Ordinance and Code recommended by the U. S. Public Health Service, the 1939 Edition shall be used as the basic standard, *until the revised rating method is used. Compliance with this standard shall be measured by the U. S. Public Health Service Milk Sanitation Rating Method.*

The revised milk sanitation rating method should be used for all interstate milk shipper ratings made after one year from date of publication of the revised rating method: provided, that the 1953 code and the revised rating method may be used by any state prior to one year after such date, and that it be recognized that during the interim period both methods of rating procedure be considered acceptable without prejudice to either.

SUPERVISION

The receiving states should recognize inspection and supervision by the following:

1. Full-time local health department personnel.
2. Full-time local state agricultural department personnel.

3. Full-time local state health department personnel.

Supervision shall be based on the procedure outlined in the 1939 Edition of the U. S. Public Health Service Milk Ordinance and Code. It shall be measured by the enforcement rating procedures outlined in Reprint No. 1970 from the Public Health Reports entitled "Methods of Making Sanitation Ratings of Milk Sheds".

It was recommended at the 1953 conference that the 1953 United States Public Health Service Milk Ordinance and Code be used as the basic standard in place of the 1939 Code as soon as the United States Public Health Service used the 1953 Code for survey rating purposes.

The certifying agency in each shipping state shall be responsible for maintaining a record of volume control either directly or through designated agencies. A complete method of volume control should include monthly reports from each shipper on total quantity received and its subsequent utilization. These reports should be audited periodically.

CERTIFICATION

Receiving states should accept ratings made only by certified rating officials of either the United States Public Health Service or the state health department or department having sole jurisdiction of milk sanitation, providing the survey officials are certified by the United States Public Health Service. Certification shall include survey ratings on:—

1. Producing Farms,
2. Receiving stations or plants,
3. Enforcement rating of the supervising agency.

It is the responsibility of state certifying agency to keep the rating of supplies within their state current.

Area ratings shall be made not less than every two years. If an individual source is in a 90% rating area, an individual rating is not necessary, provided that individual ratings shall be furnished upon request of the receiving area. Milk plants or individual sources not under an area survey or which are in areas with less than 90% ratings shall have surveys made (not less than every two years) but not more than semi-annually. If a request is received for a milk source not under recognized supervision, the survey will be denied.

The 1957 conference recommends that the principles of the agreement for interstate shipment of raw milk be also applied to finished products in interstate shipment.

The U. S. Public Health Service is to initiate a program to standardize the rating procedure of:

1. Its own personnel,
2. State rating officials.

There shall be published by the U. S. Public Health Service a list of state survey officers who have been standardized (and whose rating methods have been spot-checked and approved) by the U. S. Public Health Service.

All interstate shipments of milk shall be sealed at the time of loading with a single service seal in such a manner as to prevent unauthorized additions or withdrawals.

Sanitation compliance rating of interstate milk shipment shall indicate whether or not a plant is receiving milk other than the milk represented by this rating and the permit number of the plant shall be shown on the list.

When an exported supply (raw or pasteurized) changes status because of degrading or permit revocation, the shipping state shall immediately notify the receiving state and the U. S. Public Health Service. The receiving state shall likewise notify the shipping state of any irregularities in the imported supply.

All interstate shipment of milk or milk products shall be accompanied by copies of a bill of lading. One copy of the bill of lading shall be retained by the consignor, one copy shall be retained by the common carrier and two copies shall be delivered to the consignee with the shipment. The consignee shall forward one copy to the local health authority or, in its absence, to the state health authority.

Such bills of lading shall show information required by the Interstate Commerce Commission and in addition—

- (1) The grade of the product, ie., A. B. C. or Ungraded,
- (2) The date shipped, and
- (3) The serial number of the bill of lading and copies, stamped or printed thereon.

These bills of lading, properly filled out, should be accepted by health departments in lieu of special letter, wires or certificates from local health authority for each shipment. (Note: The 1953 Edition of the U.S.P.H.S. Milk Ordinance and Code under Item 23p requires: "For each tank shipment a bill of lading containing all necessary information shall be prepared in triplicate and shall be kept on file by the shipper, the consignee, and the carrier for a period of 6 months for the information of the health officer." The Code specifies that the consignee's copy shall accompany the shipment.)

All containers of bulk milk or milk products in interstate shipment shall carry label tags. Such tags may be those prescribed by the Milk Control Au-

thority supervising the consignor's milk supply; Provided, that the minimum requirements of Section 4 of the U.S.P.H.S. Milk Ordinance and Code are complied with.

LABORATORY SECTION

The procedure outlined in the latest edition of *Standard Methods for the Examination of Dairy Products* of the American Public Health Association shall be followed strictly. Where alternate methods are permitted by the Standard Methods, milk intended for interstate shipment should be examined by either the standard plate count or the direct microscopic count. This examination shall include routine samples from each producer. Samples from each dairy farm shall be examined not less than the frequency prescribed in the *Milk Ordinance and Code* recommended by the U. S. Public Health Service. Samples of milk which are picked up from farm tanks by tank truck operators may be collected by the supervising agency. *It is recommended that where milk tank operators take routine samples the supervising agency shall actually take at least one sample each grading period for an official analysis.* A non-transferable permit should be issued by the supervising agency, if the existing state regulations do not provide for the collection of milk samples for bacteriological analysis by persons licensed as milk and cream testers. Similar acceptance of industry sampling is recommended for tank truck and tank car interstate shipment of Grade A raw milk for pasteurization.

The state may accept the results from local official laboratories which have been approved as complying substantially with the latest edition of *Standard Methods for the Examination of Dairy Products* published by the American Public Health Association and checking closely with the results obtained at least twice a year on split samples. The state may accept the results from officially designated laboratories which they have similarly officially checked periodically and found to be satisfactory.

By "officially designated laboratories" is meant a private laboratory authorized to do official work by the supervising agency or a milk industry laboratory similarly officially designated for the examination of Grade A raw milk for pasteurization.

The requirements, of adherence to Standard Methods for method and as to frequency of sampling, for state approval of local laboratories, and for certification of laboratories of state agencies should apply to both raw and pasteurized milk and milk products

The State approval of local laboratories should include an annual visit to the laboratory, at which time evaluation of the quarters, equipment, proced-

ures, results and records shall be made on appropriate survey forms of the U. S. Public Health Service or the equivalent. *It is recommended that satisfactory performance by a laboratory in an acceptable split sample program may, at the discretion of any state, be considered a suitable substitute for an annual survey provided it is made at least biennially.* An acceptable program shall consist of a minimum of ten to twelve samples to be analyzed each six months by all laboratory methods for which the laboratory is approved, representative of all types of milk and milk products certified for interstate shipment, including samples yielding a normal range of results as well as representative high and low results, with duplicate samples. *It is recommended that the state laboratory certifying agency issue a certificate to those laboratories that it has approved, which certificate shall be returnable upon expiration or revocation.* It is recommended that all states participating in the I.M.S. program consider the establishment of minimum qualifications for laboratory personnel. It is recommended that all states comply with the recommendation adopted by the 1953 conference, that the state laboratory agency publish annually or semi-annually a list of those laboratories it has approved, including the date of survey and test or tests for which approved. It is recommended that in completing the present survey form #PHS 1500-1, entitled "Sampling", the appropriate regulatory authority shall give attention to the procedures actually used for sampling bulk farm tanks. This is to be accomplished by personal observation in the field of the sampling milk procedure, annually or biennially. *It is recommended that in the event a local laboratory is deemed incompetent for such reasons as repeated failure to check closely on split samples, or loss of its only approved laboratory worker or director, or for some other reason is no longer approved by the state laboratory certifying officer, the state laboratory certifying agency shall immediately notify the appropriate public health service regional office.*

To insure uniformity the U. S. Public Health Service is to spot check the laboratories of the state agencies participating in the certification of milk for interstate shipment and to certify their compliance with Standard Methods. *It is recommended that the public health service provide the same certification services that are now being provided for shipping states to the appropriate state laboratory agency of any I.M.S. receiving state requesting such certification.* It is recommended that the public health service should conduct a training course for laboratory survey officers at the Robert A. Taft Sanitary Engineering Center. This course should be made available at periodic intervals.

It is recommended that the state certification

agency notify the state laboratory agency as soon as possible of required laboratory surveys, and that the *state milk sanitation survey agency submit a copy of Form 1659 to the state laboratory certifying authority*, and the state laboratory agency send duplicate copies of its laboratory surveys, together with supporting data of the results of split samples, to the appropriate U. S. Public Health Service Regional Office. The regional office should then send one copy of the laboratory survey and data to the Milk and Food Laboratory of the Environmental Health Center. The Environmental Health Center will then spot check and certify the compliance, or lack of compliance, of the state laboratory agency to the appropriate U. S. Public Health Service Regional Office, which in turn, will transmit this information to the certifying agency. *It is recommended that all states consider the matter of reciprocity for those laboratories that are approved by laboratory certifying authority of any other state.*

Procedures for detection of heated milk admixed with raw milk, of antibiotics, and of quaternaries are presented in the 10th Edition of *Standard Methods for the Examination of Dairy Products*. Information of such tests and requirements may be obtained from the U. S. Public Health Service, Robert A. Taft Sanitary Engineering Center, Cincinnati 2, Ohio. It is recommended the sanitarian and laboratory technician be alert to the possibility of milk having been heat treated or chemically treated, and that appropriate test be employed.

CHANNELS AND FORMS FOR REPORTING

The State Health Officer of the shipping state shall report the results of every survey promptly to the Regional Office of the Public Health Service. That official shall report these results to the other Public Health Regional Offices concerned. An individual in the receiving states desiring information on a milk supply should make the request to the state control official in his own state who will transmit the request to the Regional Office of the Public Health Service. Industry in a shipping state desiring a survey should likewise make the request to the regulatory official in his own state.

To expedite information concerning sources on which rating results are not available, requests and reports may be sent direct from one state agency to another state agency with carbon copies of requests and reports being sent to the Regional Office of the U. S. Public Health Service. To implement these procedures, the following are recommended:

1. Permission shall be obtained from shippers for the release and publication of survey ratings through the use of an appropriate form.

2. The U. S. Public Health Service is requested to publish the shipper compliance rating list semi-annually with supplements to be issued bimonthly.

3. To clarify the designation of the point of origin on milk supplies by the certifying agency, the following was suggested by the 1952 Conference:

- a. Provide for information on form 1659 S.E. regarding whether or not heat treatment is used, (i.e., Yes or No).
- b. Reaffirm the necessity of furnishing complete information on the report form submitted by shipping states. In the event both an area rating and an individual rating are available on an individual source of milk (shipper) *the latest rating should be used in reporting.*

ROLE OF THE PUBLIC HEALTH SERVICE

The state regulatory authorities should carry their work load involved in the interstate milk program with the assistance of the Public Health Service. The Public Health Service shall be prepared to extend to state regulatory authorities and educational institutions such assistance in the training of field representatives of the state and local governmental units, or of industry, of plant and field personnel and state survey officers, as the respective states may require in operating the interstate milk shipment plan. The Public Health Service shall sponsor annual seminars of state survey personnel in each of its Regions for the coordination of survey rating procedure and interpretations. The Public Health Service should also train or assist in training laboratory personnel of state or local laboratories or of industry, as requested by state authorities.

The Public Health Service should spot-check the inspection and survey work of enforcement agencies to determine whether milk regulations are being correctly interpreted and enforced.

The Public Health Service should furnish state regulatory agencies periodically with interpretations of regulations based on questions submitted by such agencies and also that state authorities relay such interpretations to local enforcement agencies and/or industry.

It should be recognized that assistance from the Public Health Service can only be effective insofar as state regulatory authorities cooperate. Information can only be disseminated after it has been correctly and promptly submitted by the states. Upon request, interpretations of regulations will be supplied. Therefore, the Public Health Service should urge all state authorities to continuously furnish it with information so that all states may be kept informed. The general purpose of the foregoing statements is to promote

uniformity in interpretation and enforcement of standards for interstate milk shipments. The prime role of the Public Health Service is to bring about the highest degree of uniformity in attitude and performance on the part of state authorities so that any certification of milk supply can be accepted with confidence.

EDUCATION

Simplification and unification of standards and reciprocity of inspection should be extended and re-emphasized to all groups including regulatory agencies both state and local, industry, educational institutions and the general public.

Every member of this Conference should assist in developing further understanding and a broader acceptance of this program through educational methods such as:

1. Use of available material,
2. Personal contacts,
3. Enlistment of cooperation of interested groups at state and local levels,
4. Prepared articles for publication,
5. Appearances on programs.

This Conference recommends that the individual states be encouraged to promote the formation of state conferences for the understanding and the carrying out of the policies of this Conference at the local level.

COMMITTEE REPORTS

Reports of special and standing committees are part and parcel of the minutes of previous Conferences.

CONSTITUTION OF

THE NATIONAL CONFERENCE OF INTERSTATE MILK SHIPMENTS

Article I — Organization

Section 1. The name of the Conference shall be "The National Conference on Interstate Milk Shipments", hereinafter referred to as the Conference.

Section 2. The Conference shall be directed by and shall be in control of the various states who join together to stipulate the Conference's policies.

Article II — Objective

Section 1. The objective of the Conference shall be to "Promote The Best Possible Milk Supply For All the People" — by:

- Subd. 1. Adopting a sound control program which will be accepted uniformly by all control agencies.
- Subd. 2. Promoting mutual respect and trust between control agencies of producing and receiving states.

Subd. 3. Utilizing Public Health Service personnel for training programs and using that agency as a channel for the dissemination of information among state agencies.

Subd. 4. Acquainting producers, processors and consumers with the purpose of the Conference through the media of meetings, conferences, workshops, press releases, and publications and by utilization of facilities and personnel of educational institutions, trade associations, health and agricultural agencies and other groups which are willing to assist in the dissemination of such information.

Article III — Membership, Registration and Fees

Section 1. Any person who is interested in promoting high quality and availability of milk, thus encouraging its greater consumption, may become a member of the Conference.

Section 2. No person may attend and take part in the Conference until he has registered his name, address and affiliation with the secretary.

Section 3. Payment of such fees as are required in Article V., Section 9, shall be a part of registration.

Section 4. Rights and responsibilities of duly registered members are prescribed hereinafter.

Article IV—Executive Board, Officers and Committees

Section 1. The Conference shall elect its Executive Board, hereinafter called the Board from registered members.

Section 2. The Board shall be composed of 16 members, 4 members, (one at large) from Group I — (Eastern States); 4 members from Group II — (Central States) (2 at large); and 4 members from Group III (one at large) (Western States), all to be elected by the General Assembly by majority vote, plus the immediate past chairman. In order to facilitate continuity of the Board those members in Group I shall be elected for one year; those members in Group II shall be elected for 2 years; and those members in Group III shall be elected for 3 years. Thereafter each member of the Board shall be elected by the General Assembly and shall serve for 3 years or through three Conference meetings whichever period is greater. Board members may succeed themselves if nominated and elected.

Section 3. The membership of the Board shall be selected as follows:

Group I — Eastern States

Eastern States are all states east of Group II including Dist. of Columbia and a total of four members shall be elected from this area, (one member from a State Health Department,

one member from industry, one member from State Department of Agriculture, one member from a Municipal Health Department) and one member (at large) from U. S. Public Health Service to be appointed by the Surgeon General.

Group II — Central States

Central States are as follows: Alabama, Arkansas, Illinois, Indiana, Iowa, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Ohio, Tennessee, Wisconsin and a total of four members shall be elected from this area, (one member from a State Health Department, one member from industry, one member from State Department of Agriculture, one member from a Municipal Health Department), and one member (at large) from an Educational Institution, one member (at large) from laboratory.

Group III — Western States

Western States are all states west of Group II and a total of four members shall be elected from this area, (one member from a State Health Department, one member from industry, one member from State Department of Agriculture, one member from a Municipal Health Department) and one member (at large) from the U. S. Department of Agriculture.

Section 4. The Board shall elect a chairman, a secretary, and a treasurer from its membership after each National Conference, and each may retain his position at the pleasure of the Board as long as he is officially a member of the Board. A monitor or special chairman may be appointed by the chairman for any special meeting.

Section 5. The retiring chairman of the Board shall continue to serve on the Board until replaced by the next retiring chairman.

Article V — Duties of the Board

Section 1. The Board shall direct the affairs of the Conference.

Section 2. The Board shall meet prior to each Conference and after the Conference closes. Meetings of the Board shall be called by the chairman at the request of two-thirds of its members and may be called by the chairman when the Conference is not in session.

Section 3. The Board shall direct the chairman and secretary in the preparation of programs for each general meeting of the Conference.

Section 4. The Board shall set the time and place of each general meeting of the Conference.

Section 5. The Board shall appoint a nominating committee at each conference for the purpose of no-

minating members to be elected to the Board, the committee to be composed of six members, one each from State Departments of Agriculture and Health from each of the three geographical groups of States.

Section 6. In the event a vacancy occurs in its membership between conferences, the Board shall fill such vacancy with a qualified member for the unexpired term.

Section 7. If a member of the Board is unable to attend a meeting, he may not send a substitute, but shall forward by mail any material for Board action.

Section 8. A Board member who fails to attend two consecutive Board meetings shall show cause why he should not resign and his position declared vacant by the chairman. Any vacancy resulting from such resignation shall be filled in accordance with Article V, Section 6.

Section 9. The Board shall direct the treasurer to collect registration fees as necessary at each conference and pay all bills. The Board shall cause an audit to be made of the treasurer's financial report at each conference.

Article VI — Duties of the Conference Chairman

Section 1. The Chairman shall preside at all meetings of the Board and during all business sessions of the Conference, except that he may designate some member to serve as a monitor when approved by the Board.

Section 2. The chairman shall assist the secretary in arranging all Conference session programs.

Section 3. The chairman, with the approval of the Board, shall appoint committees as necessary to carry out the objectives of the Conference.

Section 4. The Chairman shall appoint Special Standing Committees as to the Conference membership directs.

Section 5. The chairman may appoint a local arrangements committee to assist in planning the physical facilities for the next Conference.

Section 6. The Chairman, with Board approval, may employ clerical assistance for the Conference.

Article VII — Duties of the Secretary and of the Treasurer

Section 1. The secretary shall record the minutes of each meeting of the Board and of each business meeting of the Conference.

Section 2. The secretary shall tally and record all voting of the Board and of the business meeting on a form authorized by the Board.

Section 3. The secretary shall notify each voting state (both Health and Agriculture) at least 60 days prior to each Conference meeting, the time and place of the Conference and what issues are to be voted on in the Conference general assembly under the heading of unfinished business.

Section 4. The treasurer shall collect registration fees and shall pay all bills as directed by the Board. He shall obtain a receipt for all disbursements and shall make all such receipts a part of Board records.

Article VIII — *Rules of the Conference*

Section 1. All Conferences shall be of at least two days duration.

Section 2. In the event a Conference is not held each calendar year, the interval between Conference meetings shall be considered as one "year."

Section 3. Order of Business. The Conference shall include the following:

Subd. 1. Registration — all participants must register.

Subd. 2. Call to order by chairman.

Subd. 3. Roll call of states and the announcement of the names of the delegates who will vote for each state in general assembly.

Subd. 4. Reading of the Minutes of the last previous Conference.

Subd. 5. Report of the Secretary and of the Treasurer.

Subd. 6. Unfinished business.

Subd. 7. Appointment of nominating committee.

Subd. 8. Conference program and new business.

Subd. 9. Report of nominating committee at least four hours before voting.

Subd. 10. Election of Executive Board members. (Nominations may be made from the floor if nominees qualify for position to be filled.)

Subd. 11. Report of Resolutions Committee (if any).

Section 4. *Rules of the Business Meetings*

Subd. 1. Roberts' Rules of Order shall prevail, unless specific rules are established.

Subd. 2. Each state shall be entitled to one full vote in general assembly or two one-half votes (Health and Agriculture).

Subd. 3. Only a representative of a State Department of Health or a State Department of Agriculture is eligible to vote. When any state is represented by both Health and Agriculture, the vote may be cast together as one vote or separately one-half ($\frac{1}{2}$) each. When any state is represented only by one department, that representative may cast a full vote for that state. Each state at the Conference must cast its own vote.

Subd. 4. Prior to the Conference each voting delegate shall present to the Secretary evidence to certify that he represents either the Department of Health, the Depart-

ment of Agriculture or both for his state. Only certified delegates are entitled to vote for the department or departments for which they are duly certified. A delegate may thus be entitled to one full vote or to one-half ($\frac{1}{2}$) vote as determined by the conditions under which he is certified. If the laws of a state place all of the responsibility for the control of milk in one department, the delegate from that state may be certified as having one full vote. Only the certified delegate or delegates from a state may vote. However, a certified delegate may authorize an alternate from his own state to cast his vote by recording the name of the alternate with the chairman.

Subd. 5. Each state delegate shall record his name with the secretary, and shall cast his vote in the general assembly when his state's name is called by announcing "yes" or "no" one vote, or "yes" or "no" $\frac{1}{2}$ vote.

Subd. 6. Voting in general assembly shall be recorded as "yes" or "no."

Subd. 7. If a state's membership wishes to caucus, the delegate may pass when the state's name is called for the purpose of caucusing, and then shall vote when the second roll is called.

Subd. 8. To adopt in general assembly:

(1) In order for a motion involving a new policy to be adopted, it shall require a simple majority of the certified delegates.

(2) In order to change a policy adopted at any previous Conference, two ballots are required. The first consideration shall be made on the first day of the Conference and shall require a majority vote of the certified delegates registered at the Conference. The second consideration shall then be made on the second day of the Conference. Adoption of the proposed change in policy shall then require at least a two-thirds ($\frac{2}{3}$) majority of the vote of the certified delegates registered at that Conference.

(3) In order to change a policy adopted at any previous Conference two ballots are required. The first consideration shall be made on the first day of the Conference and shall require a majority vote of the certified delegates. The second consideration shall then be made "yes" for such a change on the first day of that Conference. On the second day of the Conference adoption of the proposed change in policy shall require at least two-thirds ($\frac{2}{3}$) majority of the certified delegates at that Conference. A motion to suspend the rules shall require a two-thirds ($\frac{2}{3}$)

majority of votes of the certified delegates registered at the Conference.

Article IX — *Amendments to Constitution*

Section 1. This Constitution may be amended at a duly called conference, the delegates having had 45 days notice of such proposed amendments. Proposed amendments must be submitted to the Secretary 90 days before any annual meeting. Two-thirds (2/3) affirmative vote of the delegates present shall be necessary to adopt amendments to this constitution.

EXECUTIVE BOARD — 1957

REGION I

- J. A. Stalbird Albany, N. Y.
- C. W. Pegram Raleigh, N. C.
- H. W. Anderson Atlanta, Ga.

- J. W. Newlin Tyrone, Pa.
- Harold B. Robinson Washington, D. C.

REGION II

- H. L. Hortman, Chairman New Orleans, La.
- H. J. Weavers, Secretary Madison, Wis.
- Dr. M. R. Fisher St. Louis, Mo.
- C. H. Mattson Minneapolis, Minn.
- Dr. M. P. Baker Ames, Iowa
- J. C. McCaffrey Springfield, Ill.

REGION III

- Everett Lobb Bismarck, N. Dak.
- V. R. Layton Council Grove, Kans.
- Harold Barnum, Treasurer Denver, Colo.
- J. E. Mapes Dallas, Texas

PAST CHAIRMAN

- Dr. K. G. Weckel Madison, Wis.

NEWS AND EVENTS

NOTICE

The 45th Annual Meeting of IAMFS will be held at the Hotel New Yorker, New York City, on September 8-11, 1958. The arrangements committee is holding open the evening of September 9 for members wishing to attend shows, TV broadcasts and other entertainment which New York City has to offer.

To those wishing to attend such programs, you are advised to write early and directly to the theater, ticket agency, TV station or sponsor for tickets. Tickets for popular stage shows and broadcasts are always in demand. To avoid disappointment, please write early for your desired reservations.

BOOKLET OF FOOD EQUIPMENT AVAILABLE

A new 44 page booklet on food preparation and serving equipment is now being distributed by Allegheny Ludlum Steel Corporation.

The booklet gives detailed information on food preparation and serving equipment used in restaurants and cafeterias; hospitals and institutions; clubs; hotels and motels; and similar food service facilities. About 150 photographs to illustrate the text are used.

Included is a technical section on stainless steel as it relates to the food preparation and serving industries, and a table on its corrosion resistance to various media. Food stuffs and many other items that come in contact with stainless are listed. More than 200 separate items are listed, including coffee, ink, milk, mustard, oils of all kinds, soaps, meats, syrup, and many others.

The booklet can be obtained by writing to the Advertising Department, Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa.

SHELLFISH SANITATION LABORATORY RELOCATED

An agreement has been concluded between the Public Health Service's Division of Sanitary Engineering Services and the Washington State Department of Health providing for relocation of the Shellfish Sanitation Laboratory from Pensacola, Fla., to Purdy, Wash. Under the terms of this agreement, the State of Washington will provide a laboratory building and will assume all costs connected with the maintenance of the facility. Milk and Food Research, Sanitary Engineering Center, will provide the professional staff of three bacteriologists and all necessary equipment

and supplies. Initial investigations to be undertaken at the laboratory will relate to the sanitary bacteriology of the commercial species of west coast shellfish. It is anticipated that the results of research to be conducted at the laboratory will be very useful to all west coast States and the PHS in connection with the Cooperative State-PHS Program for Certification of Interstate Shellfish Shippers.

RADIATION PRESERVATION OF FOOD UNLIKELY IN IMMEDIATE FUTURE

Representatives of governmental agencies, including the Public Health Service, educational institutions, research groups, and private industry comprised the group of more than 200 who attended the Annual Meeting of the Contractors in the Radiation Preservation of Foods Program held at Gatlinburg, Tenn. early this year.

The comprehensive research program on food irradiation is under the sponsorship of the U. S. Army, Quartermaster Food and Container Institute for the Armed Forces. Although progress is being made toward more clearly identifying the problems of food irradiation, no significant break-throughs were reported. Based on research results to date, it appears unlikely that commercial application of ionizing radiations in the processing of food will be achieved in the immediate future.

NEW STATE FOOD LAW IN GEORGIA

The Georgia legislature passed and the Governor signed Act 376, on March 25, 1958, establishing in the State Board of Health authority to make and promulgate statewide rules and regulations governing food service establishments. Formerly, the Georgia Department of Agriculture had this responsibility.

The Act gives the State Board and County Boards of Health the authority to issue permits to operate food service establishments and to suspend, revoke or deny permits. Both the State Board and County Boards of Health are authorized to promulgate and adopt such rules and regulations as are deemed necessary to carry out the purpose and intent of the Act.

A rather unique feature of this legislation is the mandatory establishment of a *Food Service Establishment Advisory Council* consisting of five members all of whom shall be appointed by the Governor. The Council shall be advisory to the State Board of Health in matters relating to the adoption of rules and regulations affecting the food service business. Designate

members of the Council shall consist of operators having their business in counties of various population sizes from less than 20,000 to 50,000 or more.

Establishment sanitation standards and requirements for the examination and condemnation of unwholesome food shall not be higher than standards recommended by the U.S. Department of Health, Education and Welfare, Public Health Service, in the publication entitled, *Ordinance and Code Regulating Eating and Drinking Establishments*.

The Act becomes effective July 1, 1958 and repeals all prior laws in conflict thereto.

PENN STATE UNIVERSITY OFFERS DAIRY BACTERIOLOGY SHORT COURSE

Penn State University will again offer the popular Dairy Bacteriology Short Course at University Park, Pa., from August 11 to 27, 1958. The course is designed to give additional training to those who have had experience in dairy laboratory work and to serve as a refresher for those who have had some experience in bacteriology.

The daily program includes both lecture and laboratory work on the techniques essential to the functions of a dairy laboratory. The subject matter includes: Counting bacteria by the Standard Plate method. Counting bacteria by the Direct Microscopic method. The reductase tests (Methylene Blue and Resazurin). Tests for coliform bacteria. Tests for thermoduric bacteria. Sanitization tests on utensils and containers. Phosphatase test for pasteurization. Tests for antibiotics in milk. Sanitary analysis of water. Bacterial staining techniques, particularly the Gram stain.

A written and practical examination will be given on August 28 to 30 and will be the basis of recommendation to the State Department of Agriculture of Pennsylvania for those wishing to be licensed as Dairy Laboratory Directors.

For more information or to enroll for this course, write to:

Director of Short Courses
College of Agriculture
The Pennsylvania State University
University Park, Pennsylvania

BAKERY SANITARIANS MERGE WITH NEW SANITATION INSTITUTE

The National Association of Bakery Sanitarians, an eight-year old organization of mill and baking industry sanitation personnel, has dissolved to merge its membership with the newly-formed Institute of Sanitation Management.

The announcement came May 20 from the bakery organization's headquarters in New York City.

Current and last president of the group is Dr. W. Parker Pierce, Director of Sanitation for Arnold Bakeries, Inc., Port Chester, New York. Chairman of the Board of Directors has been Julian L. Cagle, sanitarian of Helms Bakeries, Los Angeles. The NABS organization has been considering the merger proposal since the fall of 1956.

The bakery sanitarians are dissolving their own organization to move into the Mill and Bakery Division of the Institute of Sanitation Management, with headquarters in New York. The Institute, organized October, 1956, in Chicago, has five divisions — Buildings, Food Processing, Industrial, Institutions and Mill and Bakery.

According to Dr. Pierce the bakery sanitarians felt that they had more opportunities to advance knowledge of bakery sanitation and the professional level of their members by the move to the larger organization, which has a professional secretarial office and larger financial resources. The Mill and Bakery Division of the Institute recently received a big boost in membership through the mass joining of 43 sanitarians from National Biscuit Company plants across the country and Canada.

SURVEY SHOWS FARM TANK INSTALLATIONS TRIPLE IN 2 YEARS

Mushrooming rates of growth in the nation's bulk tank installations are revealed by a series of surveys by Dairy Industries Supply Association and National Association of Dairy Equipment Manufacturers, the third of which has just been released. The studies show that total installations increased from 29,885 in January 1, 1956, to 57,386 in January 1, 1957 — a gain of 91.8% — then rose another 59.2% to 91,363, by the beginning of the current year. This represents a tripling in only two years.

Still leading the states in total number of installations is Wisconsin, with 11,336 (and a 1957 increase of 3,609). Second highest total number of installations — 8,000 — was scored by the state with largest increase of the year, Michigan, where a 5,000 gain increased its previous total 266%.

Also in the class of "1,000-or-over increase" for the period Jan. 1, 1957 — Jan. 1, 1958 were: North Carolina (2,478); Texas (2,350); Illinois (2,211); New York (1,567); Pennsylvania (1,530); Ohio (1,500); Missouri (1,038); Nebraska (1,025) and Minnesota (1,000).

Ranking among leaders in percentage of conversion to bulk are two states, Arizona and Florida, where relatively small numbers of dairy farms are coupled

with relatively high conversion rates. About 95% of Arizona dairymen are now using farm tanks (with a total 470), and 875 of the 926 producing dairies in Florida now have tanks.

JOHN WESLEY GARRETT

John Wesley Garrett, 58, Selma, Alabama, a long time employee of the Jefferson County Department of Health, Birmingham, Alabama, died May 8th after an illness of three months. Connected with the Alabama State Department of Health for seven years when he first came to Alabama in 1926 from Virginia, Mr. Garrett had been for the past 25 years in charge of the dairy farm inspection program for the Jefferson County Department of Health, with headquarters in Selma, Alabama.

Mr. Garrett, a native of Virginia, received his B.S. and M.S. degrees in dairy husbandry from Virginia Polytechnic Institute. While at V.P.I. he was elected to membership in the national honor society, Pi Kappa Phi. He was a member of the International Association of Milk and Food Sanitarians and also the National Association of Sanitarians.

He was a man of honesty and integrity, being very capable in the milk sanitarian field. "J.W." had numerous friends in Alabama, and it is with deep regret we note his passing.

JOHN K. HOSKINS PASSES

John K. Hoskins, former Assistant Surgeon General and Chief of the Sanitary Engineering Division of the Public Health Service, died on May 16, at his home in Chevy Chase, Maryland.

Mr. Hoskins joined the Public Health Service in 1913, became a member of the Commissioned Corps in 1930, and capped a distinguished career in sanitary engineering science with his appointment as first chief sanitary engineer for the Service, when that post was created in 1943. He served in that position until his retirement in 1948.

As chief of an outstanding group of engineers-scientists stationed in Cincinnati, Mr. Hoskins worked on the stream pollution investigations of the Ohio River in the early decades of the century. This work provided the basis for much of the present knowledge of water pollution control. The reports published by this group have become classics in the field, and include the original formulation of the basic law of the biochemical oxygen demand reaction and the "oxygen sag" curve, as well as procedures in ascertaining the bacterial quality of water.



H. E. BREMER RETIRES FROM VERMONT DEPARTMENT

After a service of over thirty-eight years in the Vermont Department of Agriculture, Harry E. Bremer retired on June 30, 1957. He has been an active contributing member of the International Association of Milk & Food Sanitarians for many years.

He joined the Department in 1918 and under his leadership the dairy farm inspection program for Vermont was developed. Milk plant licensing and the licensing of butter fat testers became a responsibility of the dairy division. During Mr. Bremer's tenure the enforcement of an ice cream law also became operative under his supervision. Score cards for farms, shipping plants, and manufacturing plants were frequently revised to meet out-of-state changing codes. He served under four Commissioners of Agriculture and engaged sixteen field inspectors of whom eight are still working for the Department.

Born on a farm in New York State, Mr. Bremer studied dairying and animal husbandry at Cornell University. In 1918 he came to Vermont in cow testing and dairy herd improvement work and in milk quality control. He was appointed Supervisor of Creamery Inspection in 1924.

His varied public service bespeaks his wide civic interests. From 1940-45, he served the Capitol Preparedness Organization and the Vermont State Guard. During 1945-49, he was in the Montpelier City Council; 1945-53, Director Dairy Division; and 1953-57, Deputy Commissioner of Agriculture.

He was a charter member, (now honorary) of the Vermont Dairy Plant Operators and Managers Association; is a member of the Massachusetts Milk Inspectors Association; International Association of Milk & Food Sanitarians; New York State Association

APPROVED MILK INSPECTORS' ASSOCIATION OF
SOUTHEASTERN PENNSYLVANIA
(February 13, 1958)

Dr. H. Glenn Ricker, Box 234, Fayetteville, Pa.
Aspects of Sewage and Water Problems on the Dairy Farm.
Rupert Kountz

Milk in Foreign Lands. Henry Geisinger
Developments in the Dairy Industry. Ivan Parkin

UNIVERSITY OF IDAHO, SANITARIANS CONFERENCE
(Fourth Annual Conference — Mar. 4-6, 1958)

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Off Flavors in Milk and Other Dairy Products. R. A. Hibbs
Vacuum Treatment of Dairy Products. Horace Mitten
Developments in the Interstate Milk Shipper Certification Pro-
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W. N. Dashiell

Bacterial Flora of Milk. C. V. Cherrington

3-MAN TEAM OF DAIRY INDUSTRY VOLUNTEERS SOON TO DEPART FOR SAO PAULO, BRAZIL, TRADE FAIR

Dairy Society International, which is sponsoring a full-scale dairy at the Brazil Agriculture and Food Exhibition in Sao Paulo July 5 - Aug. 5, has announced the departure on June 18 of its three-man team of top flight dairy executives who will be in charge of the project. Heading the Mission will be Arthur C. Wiesenberger of Los Angeles, Assistant Manager of Industrial Sales Division, Carnation Company, who also was a member of the successful International Samples Fair dairy team in Barcelona (June 1-20, 1957)

With Mr. Wiesenberger will go Ward K. Holm, Executive Secretary of the Indiana Dairy Products



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Association; and W. Roy Culver, President of Ray Culver, Inc., and an official of Delta Products Corporation. All three men are on loan from their respective companies so that they may demonstrate the use of "off-shore" products in this third visit to a Latin American Fair. Dairy Society International is industry-designated Cooperator with Foreign Agricultural Service of the U. S. Department of Agriculture in an extensive Market Development Program for Dairy Products around the world.

Processing equipment for recombining nonfat dry milk and anhydrous milk fat, on loan to the Society from U. S. manufacturers, was forwarded to Brazil in early March. Products necessary for 300,000 samples of milk, ice cream and cheese was furnish by the Department of Agriculture from surplus commodities.

While this marks the third participation in Latin America — the others were in the Dominican Republic and Columbia — it will be the tenth International Trade Fair in which over a million and a half samples have been distributed. For many potential customers, this is their first taste of pasteurized milk, ice cream, or cheddar cheese. Also of interest is the fact that following each DSI Fair participation there has been an increase in consumption of milk and milk products, which has stimulated interest in additional processing facilities or the establishment of similar recombining operations in order to supply the increased demand. In a number of countries the Fair equipment has formed the nucleus for each operations.

Wiesenberger, Holm and Culver will particularly emphasize effective demonstrations for dairy industry and health officials of Northern Brazil where seasonal factors cause a shortage of dairy products and where local processing of dry product could well bring about better health standards. Although Brazil is a cattle country, its dairies in this area are not sufficient to provide enough safe product to meet the demand.

Other Fairs in which the Dairy Society International and the Foreign Agricultural Service have cooperated are: Columbia, Dominican Republic, Greece, Japan (2), Turkey and Yugoslavia.

FIVE MILKMEN ARE NAMED FOR PASTEUR HERO'S MEDALS

Five milkmen were named to receive medals for acts of heroism and outstanding public service, June 9, 1958 in Washington, D. C., by the Milk Industry Foundation, an international association of milk processors and distributors. Two of the recipients are from Dallas, Texas, two from Indiana, and one from Washington, D. C.

The medals, named after the famed French scientist, Louis Pasteur, have been awarded by the Foundation

each year since 1937 to milk company employees who have distinguished themselves through acts of courage or outstanding humanitarian service. Presentations of the medals are being made locally in the hometowns of the recipients during June.

The medal winners were selected by a panel of judges under the chairmanship of Mrs. Lucille Petry Leone, assistant surgeon general and chief nurse officer, U. S. Public Health Service. The judges panel also included H. Walton Cloke, president of the Washington (D. C.) chapter of the American Public Relations Association and Albert L. Beatty, president of the Washington chapter of the Public Relations Society of America.

The top award for 1958 — the gold medal — was won by route salesman *C. A. Earle of Foremost Dairies, Inc., Dallas, Texas*. When his truck was stopped in a traffic jam during a heavy rain, Earle saw an automobile with two women occupants being submerged by flood waters in an underpass. Earle broke through a crowd of onlookers, swam alone to the vehicle and brought the two women to safety, one at a time. Shortly afterwards, the car was completely covered by the rushing water. The feat was adjudged a dangerous one because drainage sewers at the bottom of the viaduct were creating a suction that might have drowned all three.

Two milk route salesmen employed by the Borden Co. were named for silver medal awards. One of the silver medal winners was *Jack Bradshaw, of Valparaiso, Indiana*, a former police officer in that city. Hearing an explosion while making his milk deliveries, Bradshaw investigated and found two youngsters with their clothes aflame. They had been set ablaze when they threw gasoline on a small fire. Bradshaw grabbed a rug from a nearby porch and, catching the first lad, smothered his burning clothes. Then Bradshaw took off his own jacket and put out the burning clothes on the second boy. Both boys lived despite severe burns.

The second silver medal winner is route salesman, *Harry Zimmerman of the Borden Co. branch at Dallas, Texas*. While making his morning milk deliveries Zimmerman noticed a driverless car with two small children in it rolling down the street toward an embankment. Chasing the runaway car for a block, Zimmerman managed to stop it and save the children from injury or possible death.

Two other milk salesmen were bronze medal winners:

Ed Charles, Bedford Dairy Co., Bedford, Indiana. Charles is credited with saving the life of a 65-year-old invalid woman. Charles entered her house to place the milk in the woman's refrigerator, and saw the woman, her clothing ablaze, seated in her wheel

chair. After ripping away the burning clothing, he summoned an ambulance and the police. The woman survived the fire although she suffered severe burns.

Willie Gutridge, Thompson's Honor Dairy, Washington, D. C. Gutridge was delivering milk to the home of one of his customers when he heard her cry out. Investigating immediately, he discovered that she had severed the veins in her leg by stepping accidentally through a glass door. After applying a tourniquet, Gutridge called an ambulance to take the woman to a hospital. Her lacerations required 134 stitches and without the tourniquet the woman soon would have bled to death.

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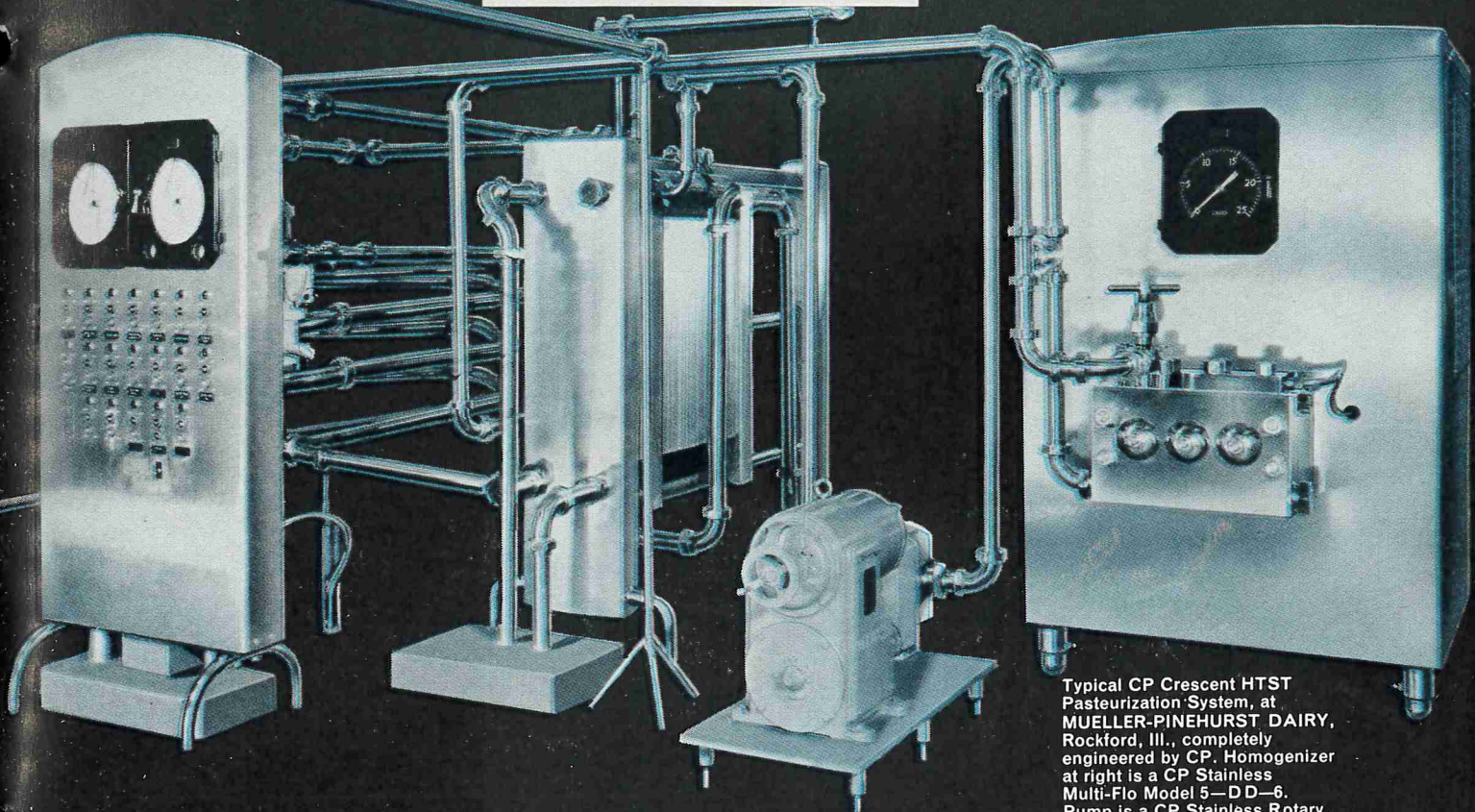
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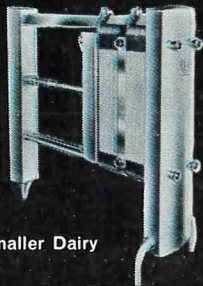
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MISSOURI ASSOCIATION OF MILK AND FOOD SANITARIANS ELECT NEW OFFICERS AT ANNUAL MEETING



Left to right: Vincent T. Foley, Kansas City Health Dept., 1st Vice-Pres.; Charles P. Orr, Mo. Division of Health, Jefferson City, Sec.-Treas.; Vernon Cupps, Outgoing Pres.; Gerald Cook, Madison Co. Health Dept., Fredericktown, Mo., Pres.; Leslie Miller, District Sanitarian, Poplar Bluff, 2nd Vice Pres.

PAPERS PRESENTED AT AFFILIATE ASSOCIATION MEETINGS

Editorial Note: The following listing of subjects presented at meetings of Affiliate Associations is provided as a service to the Association membership. Anyone who desires information on any of these subjects is encouraged to write to the Secretary of the Affiliate Association concerned for the address of the speaker. Information desired then may be requested from the speaker (a copy of the paper presented may be available for the asking).

ASSOCIATED ILLINOIS MILK SANITARIANS (15th Annual Fall Conference, Dec. 16, 1957)

- Mr. P. E. Riley, Sec.-Treas., Ill. Dept. of Public Health, 1800 Filmore St., Chicago, Ill.
New and Potential Reservoirs of Food Borne Disease Outbreaks.
 L. C. Peckham
Wisconsin's New Sanitarians' Registration Law.
 Robert M. Keown
What is the Correlation Between High Protein Diets and Mastitis. Earl E. Gardner
Grade A Fieldwork — It's Importance and Responsibility.
 Louis A. Zaradka
The Grade A Program — Observations and Plans at State Level. L. R. Davenport

OREGON ASSOCIATION OF MILK AND FOOD SANITARIANS (Annual Meeting — Dec. 19, 1957)

Mr. Archie Miner, Sec.-Treas., 568 Olive St., Eugene, Ore.
The Challenge to the Dairy Technologist. H. W. Schultz

NORTH DAKOTA ASSOCIATION OF SANITARIANS (2nd Annual Sanitation Workshop, Jan. 6, 7, 8, 9, 10, 1958)

Mr. John E. Lobb, Sec.-Treas., 317 Griffin, Bismark, N. Dak.
The Professional Sanitarian, Definition, Ethics, Technical Competency. F. Carlyle Roberts, Jr.
Results of Milk Evaluation Program. Everett Lobb
The Challenge — Plans for the Future. W. Van Heuvelen
Investigation of Food Borne Outbreaks. Everett Lobb
Techniques of Standardization. Milton Held
Fundamentals of Food Establishment Inspection.
 F. Carlyle Roberts, Jr.
Complete Inspection of Milk Plant, Field Work, Milk Groups.
 Milton Held and A. B. Johnsgard
Restaurant Inspection, Discussion and Analysis.
 F. Carlyle Roberts, Jr.
Analysis of Inspection. F. Carlyle Roberts, Jr.
Function of Laboratory in Sanitation Program. Split Sampling Program. Melvin Koons and Arthur A. Gustafson

WASHINGTON MILK SANITARIANS ASSOCIATION (Sectional Meetings, Dec. 3, 5, 6, 9, 10, 1957)

Frank Logan, Sec.-Treas., Seattle-King Co., Health Dept. Seattle
Sediment testing for farm tanks.
Sanitizing and cleaning of farm tanks.
Flavor defects in raw milk and cottage cheese due to microorganisms.
Methods and problems in manufacturing cultured dairy products. Dr. Louis Manus.

ROCKY MOUNTAIN ASSOCIATION OF MILK AND FOOD SANITARIANS (Annual Meeting — Dec. 1, 2, 3, 1957)

Mr. John E. Guinn, Sec.-Treas., Wyoming State Dept. of Health, Cheyenne, Wyo.
Sanitation on Indian Reservations. Lester Blaschki
Quality Control of Dairy Products other than Fluid Milk.
 Walter Snyder
Institutional Feeding. R. J. Snyder
Collection of Evidence of Contaminated Food for Court Proceedings. L. O. McMillin
How Salt Lake City Started Their Housing Rehabilitation Program. Alden R. Cardwell
A Bacteriologist Looks at Recreational Sanitation.
 S. M. Morrison
Future Ideas and Plans for Containers and Equipment for Dairy Products. Hugh E. Eagan
Some Problems Associated with Antibiotics in Milk.
 Daniel Johnson
Dermatitis in Relation to Sanitation and Public Health.
 Dr. John C. Murphy
Public Health Aspects of Radioactive Fall Out.
 Dr. Wright Lanfham
Food Sanitation. O. D. Moore
Integration of IAMFS and NAS. Nicholas Pohlet
Comments on Health Department Activities in Pure Food Control. James Doughty
Practical Control of Flies Around Dairy Barns. Bryan Miller

APPROVED MILK INSPECTORS' ASSOCIATION OF
SOUTHEASTERN PENNSYLVANIA
(February 13, 1958)

Dr. H. Glenn Ricker, Box 234, Fayetteville, Pa.
Aspects of Sewage and Water Problems on the Dairy Farm.
Rupert Kountz

Milk in Foreign Lands. Henry Geisinger
Developments in the Dairy Industry. Ivan Parkin

UNIVERSITY OF IDAHO, SANITARIANS CONFERENCE
(Fourth Annual Conference — Mar. 4-6, 1958)

Dr. J. L. Barnhart, Dept. of Dairy Husbandry, University of
Idaho, Moscow, Idaho or J. C. Ross, Sec.-Treas., Panhandle
Dist. Health Department, Sandpoint, Idaho

Off Flavors in Milk and Other Dairy Products. R. A. Hibbs
Vacuum Treatment of Dairy Products. Horace Mitten
Developments in the Interstate Milk Shipper Certification Pro-
gram. W. N. Dashiell

Value of the 3-A Sanitary Standards to the Dairy Plant
Inspector and Sanitarian. H. L. Thomasson

The 3-A Requirements for HTST Construction, Installation,
Operation and Testing. Horace Mitten

Proper Methods for Checking HTST Pasteurizers. H. E. Egan
Compatibility of Detergent-Sanitizers Used in Cleaning-
Sanitizing Operations. Lee Fortier

Suggested Requirements for Pipeline Milkers.

H. V. Copenhaver

License Requirements for Drivers of Milk Pick-up Tankers.
Ben Luce

New Developments in Cheese Manufacturing. R. A. Hibbs
Progress in Artificial Insemination. K. R. Johnson

Various Materials Which are Used as Milk Contact Surfaces.
J. L. Barnhart

Teamwork in Dairy Plant Sanitation. Walter Ahlstrom

Radio Activity in Milk. W. N. Dashiell

What Should the Role of the Sanitarian Association in the
Dairy Industry. H. L. Thomasson

Chlorination of Water. Vanghn Anderson

Discussion of Interpretations of the USPHS Milk Ordinance
and Code. H. E. Egan

Frozen Dessert and Vending Machine Ordinances and Codes.
W. N. Dashiell

Bacterial Flora of Milk. C. V. Cherrington

3-MAN TEAM OF DAIRY INDUSTRY VOLUNTEERS SOON TO DEPART FOR SAO PAULO, BRAZIL, TRADE FAIR

Dairy Society International, which is sponsoring a full-scale dairy at the Brazil Agriculture and Food Exhibition in Sao Paulo July 5 - Aug. 5, has announced the departure on June 18 of its three-man team of top flight dairy executives who will be in charge of the project. Heading the Mission will be Arthur C. Wiesenberger of Los Angeles, Assistant Manager of Industrial Sales Division, Carnation Company, who also was a member of the successful International Samples Fair dairy team in Barcelona (June 1-20, 1957)

With Mr. Wiesenberger will go Ward K. Holm, Executive Secretary of the Indiana Dairy Products



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Association; and W. Roy Culver, President of Ray Culver, Inc., and an official of Delta Products Corporation. All three men are on loan from their respective companies so that they may demonstrate the use of "off-shore" products in this third visit to a Latin American Fair. Dairy Society International is industry-designated Cooperator with Foreign Agricultural Service of the U. S. Department of Agriculture in an extensive Market Development Program for Dairy Products around the world.

Processing equipment for recombining nonfat dry milk and anhydrous milk fat, on loan to the Society from U. S. manufacturers, was forwarded to Brazil in early March. Products necessary for 300,000 samples of milk, ice cream and cheese was furnish by the Department of Agriculture from surplus commodities.

While this marks the third participation in Latin America — the others were in the Dominican Republic and Columbia — it will be the tenth International Trade Fair in which over a million and a half samples have been distributed. For many potential customers, this is their first taste of pasteurized milk, ice cream, or cheddar cheese. Also of interest is the fact that following each DSI Fair participation there has been an increase in consumption of milk and milk products, which has stimulated interest in additional processing facilities or the establishment of similar recombining operations in order to supply the increased demand. In a number of countries the Fair equipment has formed the nucleus for each operations.

Wiesenberger, Holm and Culver will particularly emphasize effective demonstrations for dairy industry and health officials of Northern Brazil where seasonal factors cause a shortage of dairy products and where local processing of dry product could well bring about better health standards. Although Brazil is a cattle country, its dairies in this area are not sufficient to provide enough safe product to meet the demand.

Other Fairs in which the Dairy Society International and the Foreign Agricultural Service have cooperated are: Columbia, Dominican Republic, Greece, Japan (2), Turkey and Yugoslavia.

FIVE MILKMEN ARE NAMED FOR PASTEUR HERO'S MEDALS

Five milkmen were named to receive medals for acts of heroism and outstanding public service, June 9, 1958 in Washington, D. C., by the Milk Industry Foundation, an international association of milk processors and distributors. Two of the recipients are from Dallas, Texas, two from Indiana, and one from Washington, D. C.

The medals, named after the famed French scientist, Louis Pasteur, have been awarded by the Foundation

each year since 1937 to milk company employees who have distinguished themselves through acts of courage or outstanding humanitarian service. Presentations of the medals are being made locally in the hometowns of the recipients during June.

The medal winners were selected by a panel of judges under the chairmanship of Mrs. Lucille Petry Leone, assistant surgeon general and chief nurse officer, U. S. Public Health Service. The judges panel also included H. Walton Cloke, president of the Washington (D. C.) chapter of the American Public Relations Association and Albert L. Beatty, president of the Washington chapter of the Public Relations Society of America.

The top award for 1958 — the gold medal — was won by route salesman *C. A. Earle of Foremost Dairies, Inc., Dallas, Texas*. When his truck was stopped in a traffic jam during a heavy rain, Earle saw an automobile with two women occupants being submerged by flood waters in an underpass. Earle broke through a crowd of onlookers, swam alone to the vehicle and brought the two women to safety, one at a time. Shortly afterwards, the car was completely covered by the rushing water. The feat was adjudged a dangerous one because drainage sewers at the bottom of the viaduct were creating a suction that might have drowned all three.

Two milk route salesmen employed by the Borden Co. were named for silver medal awards. One of the silver medal winners was *Jack Bradshaw, of Valparaiso, Indiana*, a former police officer in that city. Hearing an explosion while making his milk deliveries, Bradshaw investigated and found two youngsters with their clothes aflame. They had been set ablaze when they threw gasoline on a small fire. Bradshaw grabbed a rug from a nearby porch and, catching the first lad, smothered his burning clothes. Then Bradshaw took off his own jacket and put out the burning clothes on the second boy. Both boys lived despite severe burns.

The second silver medal winner is route salesman, *Harry Zimmerman of the Borden Co. branch at Dallas, Texas*. While making his morning milk deliveries Zimmerman noticed a driverless car with two small children in it rolling down the street toward an embankment. Chasing the runaway car for a block, Zimmerman managed to stop it and save the children from injury or possible death.

Two other milk salesmen were bronze medal winners:

Ed Charles, Bedford Dairy Co., Bedford, Indiana. Charles is credited with saving the life of a 65-year-old invalid woman. Charles entered her house to place the milk in the woman's refrigerator, and saw the woman, her clothing ablaze, seated in her wheel

chair. After ripping away the burning clothing, he summoned an ambulance and the police. The woman survived the fire although she suffered severe burns.

Willie Gutridge, Thompson's Honor Dairy, Washington, D. C. Gutridge was delivering milk to the home of one of his customers when he heard her cry out. Investigating immediately, he discovered that she had severed the veins in her leg by stepping accidentally through a glass door. After applying a tourniquet, Gutridge called an ambulance to take the woman to a hospital. Her lacerations required 134 stitches and without the tourniquet the woman soon would have bled to death.

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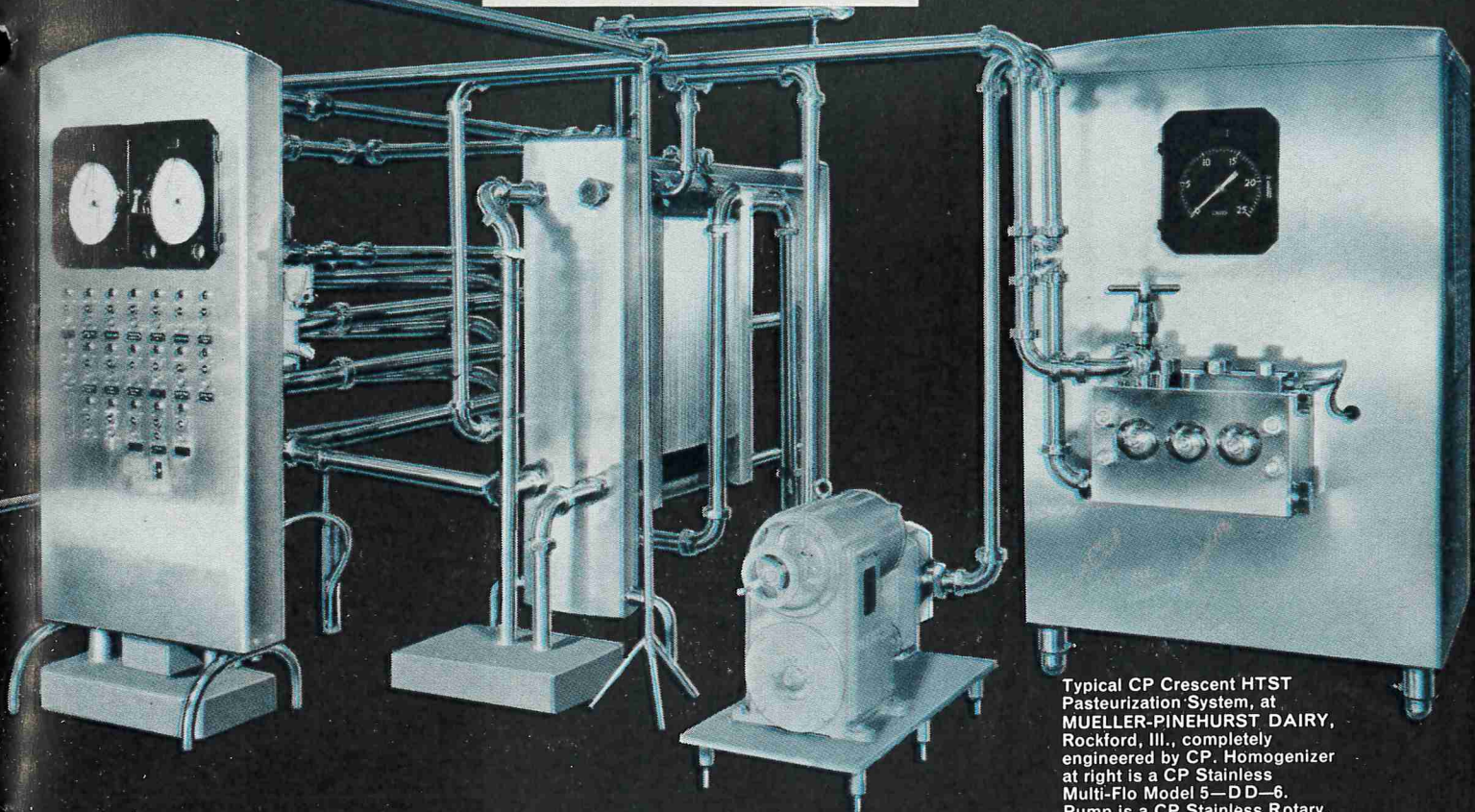
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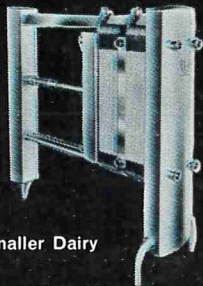
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