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Miami Beach (Bal Harbour) Florida

NOTICE
1967 ANNUAL MEETING PROGRAM
PAGE 159

Official Publication

International Association of Milk, Food and Environmental Sanitarians, Inc.

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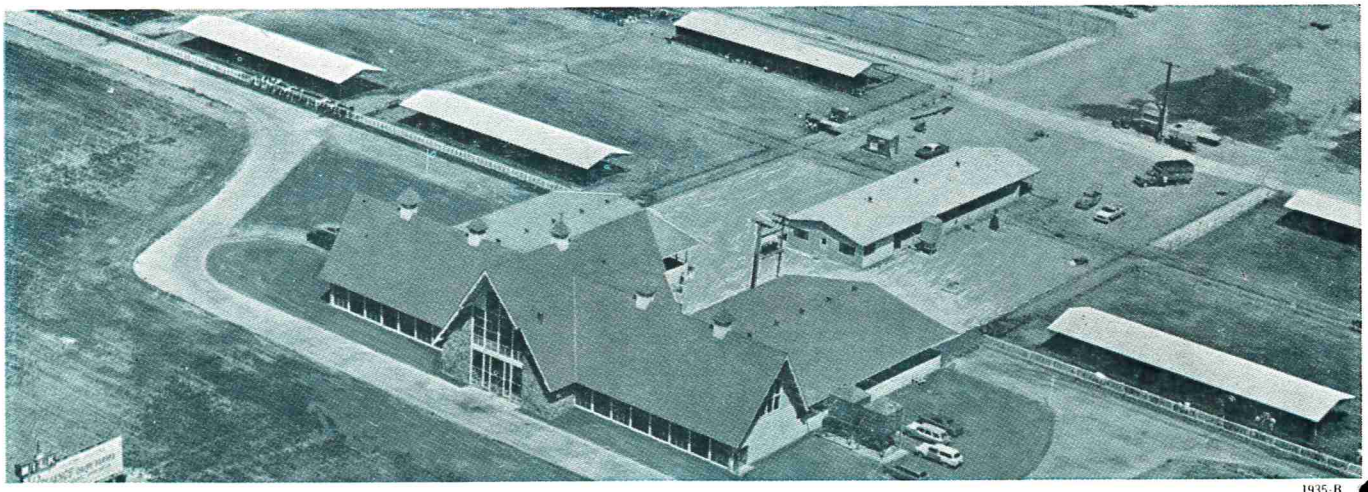

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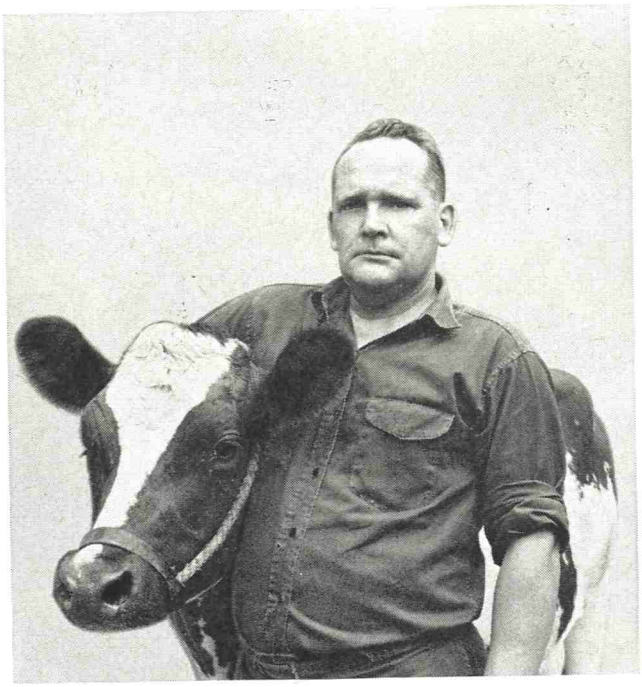

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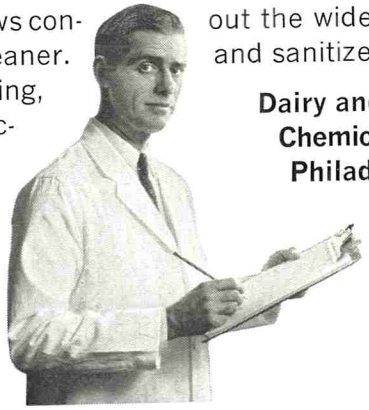

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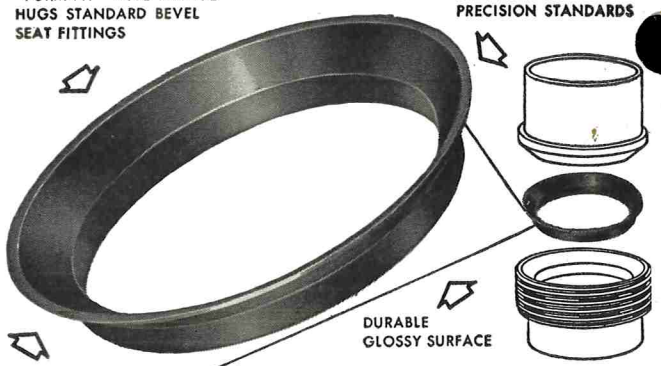

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IAMFES And NAS AD HOC Committee of both Associations' Executive Boards discuss plans for merger

President P. R. Elliker, Second-Vice President M. E. Held, W. C. Lawton, Immediate Past-President, and H. L. Thomasson, Executive Secretary of International Association of Milk, Food and Environmental Sanitarians met with Dr. W. G. Walters, Former President of National Association of Sanitarians and long-time member of IAMFES, John Todd, Past President, and Nicholas Pohlit, Executive Director of NAS, in Kansas City, April 9-11 to discuss possibilities for a merger of the two associations. Fred Cooper, President of NAS, was unable to attend the meeting.

Remarkable accord between the representatives of the two groups was reached with compromise on minor differences. A tentative draft of a new Constitution and By-Laws was prepared and plans were established for presentation of this to the membership. The first step provides for review of the new Constitution and By-Laws and general discussion of problems relating to formation of the new association by the Executive Boards with ample opportunity for discussion with the membership at the 1967 Annual Meetings of each Association. Upon general acceptance with recommendations by each group, a final draft will be prepared for vote of the membership at the 1968 Annual Business Meetings of each Association. If passed at the IAMFES business meeting, a mail ballot by the IAMFES membership would be required for final approval. If approved, the formation of the new association could be completed the latter part of 1968 and the first annual meeting could be in 1969 or 1970.

Many advantages appear to be possible under the plan, including joint publication of the two present Journals, consolidating the strength of the two groups, eliminating separate state meetings, eliminating double membership and providing complete coverage of the environmental health field under one group. The two Associations actually complement each other in this respect. The plan further proposes major sections under one new association which will provide an affiliation for all groups active in the present organization, including sanitarians, industry representatives, college and university and public health workers. With honesty, objectivity and fairness on the part of the membership toward accomplishing what is best for the sanitarian, the prospect appears most promising of joining the two sanitarian groups into one new association in the near future.

PAUL R. ELLIKER
President, IAMFES

WILLIAM G. WALTER
Former President, NAS

WATER FOR TEN MILLION MORE SOUTHERN CALIFORNIANS[1]

ROBERT A. SKINNER

Metropolitan Water District of Southern California
1111 Sunset Boulevard
Los Angeles, California 90054

Two projects are under way in California which have great significance in the full development of Western water resources. These are, first, the vast works now under construction by the State of California to bring Northern California water to the arid central and southern parts of the state and, second, plans for construction of a mammoth sea water conversion plant on a man-made island off the coast of Orange County south of Los Angeles.

These projects represent the efforts by the people of California to solve their water problems themselves. In no way, however, should this be construed to mean that California is not determined to join wholeheartedly with other states in the West in seeking solutions to water problems in common.

The area served by the Metropolitan Water District consists of the coastal plain which stretches from Ventura County to the Mexican border and includes the metropolitan areas of Los Angeles, Orange County, Riverside and San Diego. This region now receives nearly 60% of its total supply from two immense aqueducts each reaching more than 200 miles away. They are the Owens River Aqueduct of the City of Los Angeles completed in 1913 and Metropolitan's Colorado River Aqueduct put into operation in 1941.

In that year, when the first deliveries of Colorado River water were made, the area served had a population of approximately two million people. Today, 25 years later, there are ten million—half the population of the entire state of California. It has been this Colorado River supply, financed by the people of the District, that has supported such incredible growth.

There are no signs indicating any let-up in this population surge. Only a half-dozen states in the Union have a larger population than the District. Each year that population is growing by 300,000 people—equivalent to a city the size of Miami, Florida, or Akron, Ohio. By the turn of the century, the District's population will be close to twenty million—it will have ten million *more* Southern Californians.

DESERT WATERWAY—Section of Colorado River Aqueduct canal on its way to Southern California coastal plain. The canal is 55 feet wide at the top, slopes to a bottom width of 20 feet and is about 10 feet deep at the center.

WATER FROM NORTHERN CALIFORNIA

As a result, it is indeed fortunate that there is well under way and on schedule a gigantic water supply project that will bring to the Metropolitan District water from Northern California starting in the early 1970s. The District's entitlement from this source will be nearly twice the amount now obtained from the Colorado River. This northern water is expected to meet all the District's needs until the year 1990.

This new source will be the California Aqueduct—with a canal big enough to float an ocean liner—that will reach south 450 miles from the delta of the Sacramento and San Joaquin rivers east of San Francisco. The cornerstone of this epic project is Oroville Dam on the Feather River 110 miles north of the delta. Here the waters of the Feather will be

[1]Presented at the 48th Annual Meeting of the California Association of Dairy and Milk Sanitarians, Anaheim, California, October 3-5, 1966.

impounded by the world's highest embankment dam —770 feet high—and released as needed down the Feather and then the Sacramento River to the delta.

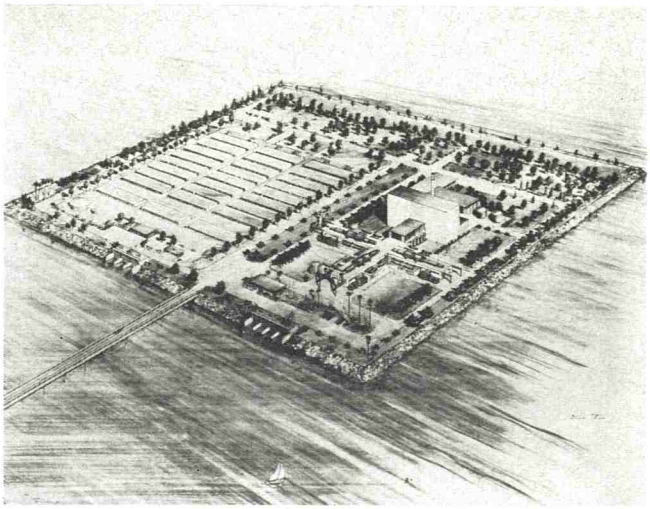
The cost of building this fantastic project is something on the order of $2,500,000,000, financed for the most part by a bond issue authorized by California voters. The Metropolitan Water District has contracted with the State for the largest amount of water —more than 2,000,000 acre-feet annually of the total project yield of 4,230,000 a year—and the water must be transported the longest distance. The District is one of some 30 contractors purchasing water from the project.

The State Water Project brings this Northern water to the District's doorstep but it must then take on the tremendous task of distributing it to its member agencies on the coastal plain. More than 300 miles of new tunnels and pipelines, three new water treatment plants and related works will be required at a cost of another billion dollars and more.

WORLD'S LARGEST DESALTING PLANT

The second project the District is undertaking is a bold departure from the traditional method of meeting water supply problems through construction of long aqueducts. This is the desalting of sea water. It is certainly nothing new, distillation having been used for years in certain specialized situations. There is doubt, too, that it is suddenly going to become the panacea for world-widewater ills. But in coastal areas such as Southern California where water is in short supply and enormous aqueducts costing hundreds of millions of dollars have been the only answer, it may provide an entirely new source for helping solve this problem. The mere cost of transporting the water from the coast probably makes desalting of ocean water prohibitively expensive for regions and states far inland.

What may prove an historic engineering study was completed a year ago at a cost of approximately a million dollars with the Metropolitan District, the U. S. Department of the Interior and the Atomic Energy Commission each bearing one-third of the cost. This study, which was made by the Bechtel Corporation, a world-wide engineering firm, established that a desalting plant using the multi-stage flash distillation process and producing 150 million gallons of water a day—enough for a city the size of San Francisco—is technically and economically feasible. The proposed plant would be nuclear-fueled and would generate large amounts of electricity for marketing by the Southern California electric utilities. Its total electrical output would be roughly 1800 megawatts—more than that of Hoover Dam.



SEA WATER CONVERSION PLANT—Artist's rendering shows proposed world's largest combination nuclear power and desalting plant to be located on a 40-acre man-made island off the Orange County, California, coast.

With this kind of a dual-purpose power and desalting plant, the cost of the desalted water at the plant site was estimated by Bechtel at 22 cents a thousand gallons as opposed to a minimum of one dollar for existing seawater conversion plants. This 22-cent figure brings the cost within the economic ballpark at least for municipal and industrial uses although it is more than the Northern California water is expected to cost the District. This cost figure remains, of course, no more than an engineering estimate and only construction and operation of the plant can establish actual costs. And only through construction and operation can the technology be demonstrated and improved.

UNIQUE FEATURES OF THE DESALTING PLANT

There are a number of unique features in this proposed plant. Certainly new ground is not being explored in using distillation as a process for desalting water. But the size of the plant now being considered so far exceeds any existing plants that it represents an entirely new application for this process. As a matter of fact, the capacity of this plant, 150 million gallons per day, is equal to the total capacity of all of the existing desalting plants in the world.

Secondly, its operation in conjunction with a major electric generating station, both relying upon nuclear reactors as a source of energy, adds a new dimension to the partnership between power and water development now common in hydroelectric systems. The Bechtel study demonstrated that energy in the quantities necessary to produce the large block of power to be generated—1800 megawatts gross—and distill the immense amount of water contemplated could be

most economically provided by nuclear reactors, the most spectacular source of energy developed by man.

Third, and perhaps one of the most interesting aspects of the project, this water and power complex will be located on a man-made island a half-mile off the Orange County coast south of the City of Los Angeles. During the study, the feasibility of a shore-based plant was examined and it was discovered that, both from the standpoint of economics and a desire to avoid interfering with the normal development of coastal areas, an island was the best location. The island would be 1200 feet by 1500 feet and have approximately forty acres of usable space. A two-lane causeway would link it with the mainland.

Fourth, this will be one of the first times where the cost of desalted water must prove itself against available alternatives. Desalting in its previous applications has had little competition. Its alternatives usually have been no water at all or have imposed such impossible conditions that the alternative was rejected out of hand. Here, desalting must prove itself as an economic source. It will be measured against the cost of constructing another major aqueduct system reaching to some new source of natural water—whether it be in Northern California or the Pacific Northwest.

It is true that this plant is not expected to be needed before 1990 to meet the Metropolitan District's anticipated water demands. However, it could prove a valuable supply both in case of emergency and for improving water quality. Most important, the District cannot really wait very much longer for the information this plant will provide. Only then can the District form an intelligent judgment on what will be the most economical and reliable source of water to fill its needs after 1990.

This desalting plant will be 40 times bigger than any now in existence and the total cost will be $444 million including the water conveyance and power transmission lines. Of this total, MWD will pay $126 million, the utilities $257 million, and the Federal Government $61 million, the last being still subject, of course, to Congressional approval. The Federal Government has also proposed a contribution of $11 million toward operating costs and all of the Federal contribution would be on the desalting side of the project. If all goes on schedule, a 50-million-gallon-a-day module will be in operation in 1972 and the remaining 100-mgd unit would be on stream in 1977.

Cooperative Effort Needed

In closing, one point must be emphasized. It may well prove possible for the Metropolitan Water District to keep its people supplied with water for a period of appreciable duration after 1990 by means of the California Aqueduct and desalting plants. But the same cannot be said for the Pacific Southwest as a whole, or even Southern California if the inland areas as well as the coastal plain is included. Southern California—in fact, the entire state of California—is very deeply concerned not only over its own but also the water problems of other states of the West. The District recognizes that water shortages that occur there will hurt its own economy badly. The economic interdependence of all the West is ever growing.

In recent months, the District has been working together, particularly with the other states of the Colorado River Basin, in a common effort to meet the water needs of the entire Southwest. A similar alliance among all the states of the West appears to be essential and eventually one among the United States, Canada and Mexico may attain recognition. What Southern California, a near-desert area, has done and is doing in the development of water resources for many additional millions of people demonstrates eloquently that apparently insurmountable water problems can be overcome but that it requires sustained effort and sacrifice on the part of the people.

THE AMFARE AUTOMATED RESTAURANT SYSTEM–SANITARY ASPECTS[1]

NORMAN POTTER[2]

The American Machine & Foundry Company
Springdale, Connecticut

Over the past several decades enormous strides have been made in improving and safeguarding the sanitary quality and wholesomeness of our food supply. Sanitation control is not something that can be achieved and maintained without cooperation of enlightened and conscientious food handling personnel provided with adequate equipment and facilities. Unfortunately, it is frequently easier to provide adequate equipment and facilities than to find and hold enlightened and conscientious personnel, especially where the wage rate is very low and the food handling duties require only the most meager of skills—as is the case in various segments of the restaurant industry today.

Six years ago the American Machine & Foundry Company undertook an extensive study of the restaurant industry, particularly with regard to its labor costs and problems and the opportunities it could provide for automated systems. The results of this study, and subsequent research and development, resulted in the AMFare automated restaurant system. While the AMFare automated restaurant system was undertaken primarily for such advantages as decreased labor costs, faster customer service, greater inventory control and improved quality control, improved sanitary control is inherent in the system.

THE AMFARE SYSTEM

The system was designed for the drive-in restaurant doing over $200,000 in gross sales annually. The average drive-in restaurant of this type carries 34 items on the menu. Of these, the 16 most popular items account for 70% of the dollar sales. It is these 16 items that the AMFare system produces. Lesser items are manually produced in the conventional manner. Labor required with AFMare amounts to 40 man-hours per day, as compared with 90 man-hours per day in a conventional drive-in of the same sales volume. This 40 man-hours per day is provided by a crew of two maintenance men and three operational personnel, on staggered shifts.

These personnel will be of a higher caliber than the usual drive-in help and are trained in AMFare operations, including sanitary procedures. While these personnel will operate, maintain, and be responsible for cleaning equipment more complex than conventional kitchen equipment, it is believed that the combination of machinery carefully engineered along sanitary lines and adjusted and set to operate within well accepted time and temperature ranges, together with fewer food handlers (these being of a higher level of training), can raise the level of sanitation over that found in most similar, conventional eating establishments. This, incidentally, is precisely the combination that has contributed to the high sanitary achievements of modern mechanized plants throughout the food processing industry.

The AMFare system consists of an organized grouping of six automatic machines under the electronic control of a computer. The computer receives orders from customers and transmits instructions to the respective machines to prepare the required food items. The machines include a potato fryer, entree fryer, hot dog machine, hamburger machine, soft drink dispenser and milk shake machine. A schematic of a typical equipment layout is shown in Figure 1. The machines prepare and dispense various items and automatically convey them to a central assembly station. A human operator plays a key role at this assembly station.

Each machine performs a plurality of functions. Thus, in the case of the hamburger machine, there are mechanisms for bun storage, dispensing, slicing and toasting; meat storage, patty making, dispensing and grilling; cheese slicing and sauce dispensing to take care of cheeseburgers and doubleburgers; assembly of all components to provide hamburgers, cheeseburgers and doubleburgers; and wrapping of assembled items in bags fabricated from roll stock film by the machine. All operations are performed without human contact with the food.

First generation jury rig equipment for all of the machine prepared items has been operating on a pilot plant basis at a drive-in in Levittown, New York, since 1962. Numerous refinements in design and construction have been incorporated into the prototype machines that are now being tested and

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[1]Presented at the 53rd Annual Meeting of the INTERNATIONAL ASSOCIATION OF MILK, FOOD AND ENVIRONMENTAL SANITARIANS, INC., in Minneapolis, Minnesota, August 15-18, 1966.

[2]Present Address: Dept. of Food Science, Cornell University, Ithaca, New York 14850.

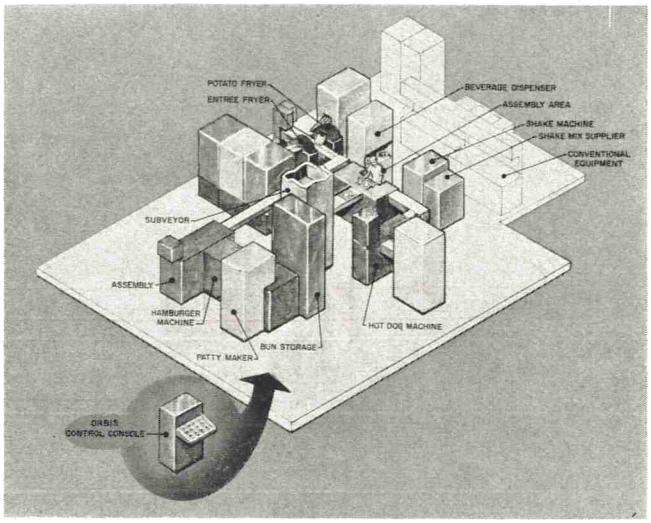

Figure 1. Schematic of Typical Equipment Layout.

operated commercially at a drive-in in Minneapolis, Minn. Presently all of the machines and components of the system are in advanced stages of certification by a leading U. S. sanitation foundation.

Food Holding Times and Temperatures

The cardinal rules of cold and hot storage have been followed and no perishable food is stored cold above 42 F or subjected to heat below 150 F for any length of time that would promote bacterial growth. Foods received in frozen form such as fish, shrimp, onion rings and potato pieces are held at 0 F. These temperatures must be maintained if the food materials are to retain their necessary textural properties for proper machine function. Predetermined holding periods for specific products are not exceeded. Departure from specified temperatures and storage would result, for example, in faulty patty making, poor cheese slicing, improper sauce pumping, etc. Unlike conventional restaurants, the AMFare system cannot compensate for abuses in raw material temperature or textural properties by providing special handling or adjusting the cooking times. In the long run, this is an advantage and should contribute to tighter quality and sanitary control.

An AMFare operators' manual gives recommendations for storage temperatures and maximum holding times of all perishable food items prior to use in machines. Frozen hamburger patties are not used. Specifications require procurement of freshly ground beef in such quantities that the total holding time of hamburger at 42 F does not exceed 48 hours. Abuse of these requirements can result in excessive "bleeding" at the patty-maker or patty break-up on the bands traveling through the oven. A training course for managers emphasizes the machine dependence upon quality raw materials.

Clean-up Procedures Defined

Proper clean-up is pertinent to the operation of the AMFare system. It is essential for proper machine performance and is demanded for public health reasons.

Cleaning procedures are divided into daily, every-other-day, weekly, and monthly chores. Check lists for each machine are given to the responsible operator. Completed check lists are signed by operators and frequent inspections against check lists are made by the AMFare system manager.

The AMFare system uses sanitary paper boats and cups, and single service, disposable plastic utensils throughout. There is no dishwashing requirement for these.

Sanitary Features of the Equipment

Let us now consider several of the AMFare machines individually and point out some of the more significant sanitary features.

French Fried Potato Machine. Figure 2 shows the French Fried Potato Machine which consists of a dispenser that passes measured portions of frozen french fries from the freezer compartment to the fryer below, the frying wheel which turns within a tank of 375 F frying fat, a paper boat dispensing mechanism which places boats below the potato chute

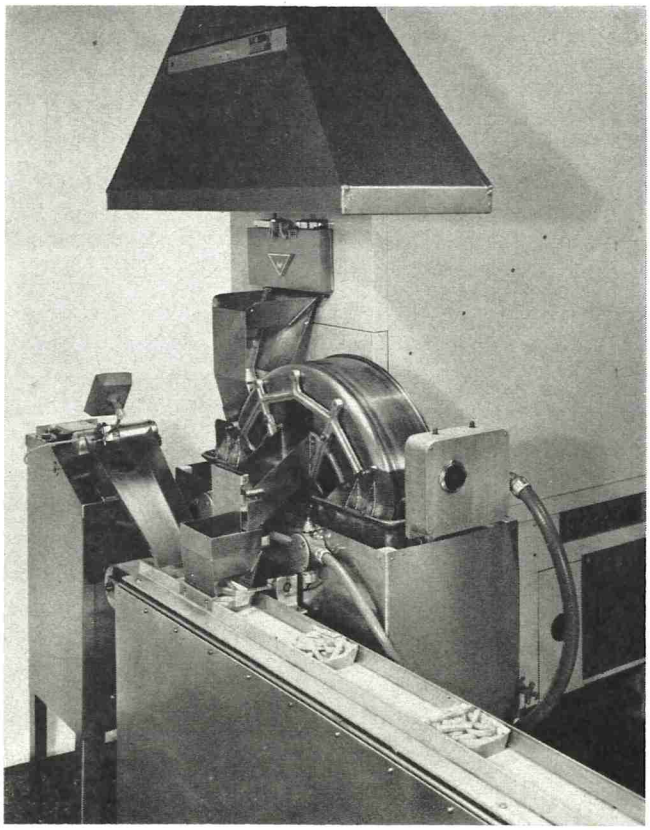

Figure 2. Prototype Model Potato Fryer.

from the frying wheel, and the conveyor belt which moves boats of fried potatoes to the central assembly station. Frozen, blanched potatoes held in the dispenser of this machine never warm up above the freezer setting of 0 F. Potatoes are fried as individual portions only on order and are placed in paper boats without hand contact. Paper boats, stacked upside down and automatically inverted only when a portion is to be received, prevents dust or other contamination of the paper boats. Oil from the fryer is filtered twice each day and discarded when the free fatty acid content increases above two per cent. This contributes to a sanitary operation and improves food quality both visually and with respect to flavor.

Entree Fryer. Individual portions of fish, shrimp, chicken and onion rings are fed to the Entree Fryer (not shown) in any order called for by computer control. Onion rings, breaded fish fillets and breaded shrimp are held in the freezer dispensers at 0 F. Breaded chicken portions are held in a refrigerated dispenser at 42 F. The reason for the higher temperature storage of the chicken is to permit these larger food pieces to fry in the same time interval as the onion rings, fish, and shrimp. This is necessary since all of the entrees are fried or reconstituted in the fixed period of one revolution of the fryer wheel. This, in turn, permits the four entree items to be fried in any order dictated by customer demand.

In the AFMare system all entree items are solidly frozen (or refrigerated, in the case of chicken) until the moment they enter the frying fat. There is no thawing and restorage of these perishable items to downgrade sanitary and eating qualities of these foods.

Hot Dog Machine. The operating principles of the Hot Dog Machine are seen in Figure 3. The infrared heating element is above the frankfurters being conveyed through the grill and another infrared heating element below the frankfurter grill toasts rolls, which are conveyed in paper boats. The meat dispenser on the left holds frankfurters at 42 F and drops them onto the grill conveyor upon demand. Upon completion of grilling and roll toasting, the frankfurter drops into the open roll on the paper boat, which is automatically conveyed to the central tray assembly station. In this process, frankfurters and rolls stacked into their dispensers by plastic-gloved operators at the start of the day are never again touched until they reach the hand of the customer. The common practice of holding frankfurters warm, often below 140 F, for several hours prior to serving, and handling the roll during hot dog assembly, as in conventional operation, is avoided by this machine.

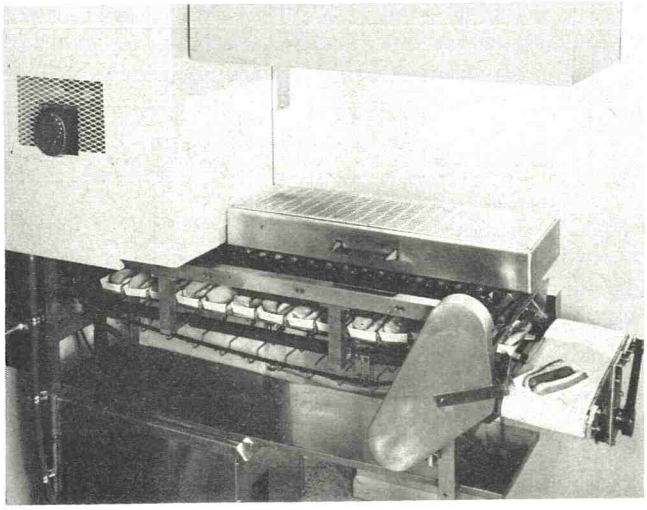

Figure 3. Prototype Hot Dog Machine.

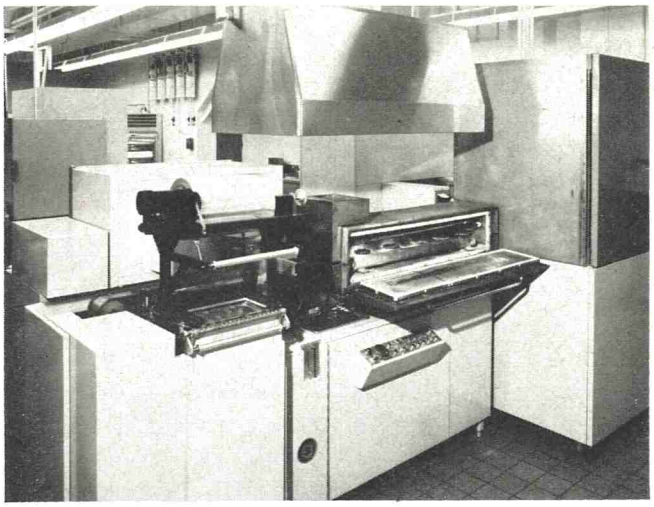

Figure 4. Prototype Hamburger Machine.

Hamburger Machine. The integrated functions of the Hamburger Machine are many. The equipment for hamburger meat storage, patty making, bun storage and slicing, cooking and toasting, cheese slicing, sauce dispensing, and final hamburger assembly and wrapping has been remarkably simplified in the engineered prototype model shown in Figure 4. Hamburger meat storage and patty making take place at 42 F in the enclosed refrigerated chamber at the far right. Bun storage and slicing is enclosed in the chamber behind the refrigerated chamber. Cheese at 42 F is held and sliced in the enclosure behind the roll of wrapping film. This enclosure also houses the refrigerated sauce and sauce pump. The assembled hamburgers, cheeseburgers, and doubleburgers are automatically wrapped in transparent bags fabricated for each item.

The steps through which hamburgers pass are precisely defined and controlled, and permit a high level of sanitation.

An experimental bunnery is under study which stores buns in their unopened cartons as received from the bakery. Buns are mechanically lifted from the opened cartons and aligned for slicing prior to being conveyed to the toaster. The advantages of this type of bunnery are in prevention of bun staling and in elimination of hand loading of individual, unwrapped buns in the bunnery.

Milk Shake Machine. The current automatic Milk Shake Machine houses six 40-quart cans of mix procured from the dairy and refrigerated at 42 F. Special can lids provided with tubes permit automatic pumping of the mix to the refrigerated hoppers above three individual milk shake chambers. On a signal from the computor control a sanitary paper cup is dropped from the enclosed cup dispenser to a position below the milk shake exit valve. Shake is admitted to the cup to a level prescribed by a photoelectric cell. The cup is rotated on a wire turntable to allow the next shake to be prepared.

Should orders come faster than the assembly man can remove shakes and turntables become full, the machine will hold up subsequent production. An additional feature is a slight flow of water in the sink below the turntables to wash shake drippage from the machine. From a sanitary standpoint, this machine is far ahead of such common practices as adding ice ceam with a wet scoop to milk and syrup in a reused container and aerating with a mixer that generally remains wet with milk at room temperature throughout the day.

Soft Drink Machine. The Soft Drink Machine dispenses two types of carbonated and two types of non-carbonated beverages. Syrup and concentrate tanks are held refrigerated within the machine. Filtered water, carbonated or not, is added to the paper cups following the syrup, much as in conventional carbonated drink vending machines. Ice is added to the drink by the assembly man when he removes drinks to fill trays. Special, easy open covers are provided for the ice wells. The indexing turntable principle and a slight water flow in the sink are employed as in the Milk Shake Machine.

TEST CENTER OPERATION

Several of the machines are in operation at the AMFare Test Center in Stamford, Conn. Here operators and managers of AMFare systems are trained in operation, maintenance, and clean-up of the equipment. This training is essential if the high sanitary potential of the system is to be fully realized.

THE CODEX ALIMENTARIUS— AN INTERNATIONAL FOOD CODE

The Codex Alimentarius Commission is an international body operating under the auspices of the United Nations and charged with the responsibility of developing and establishing international standards for foods. The purpose of these food standards is to protect the public's health and facilitate world trade. The Commission first met in 1962 under two wings of the United Nations—the World Health Organization and the Food and Agriculture Organization. Any government that is a member of WHO or FAO may send delegates to scheduled meetings.

The standards adopted by the Codex Commission are published in its official publication—Codex Alimentarius—or food code. These standards provide sellers and buyers around the world with uniform criteria for trading and protect consumers by providing a sound, wholesome product, correctly identified.

The Codex Alimentarius will include standards for all principal foods, whether processed or raw, for distribution to consumers. A Codex Standard for a given commodity is essentially a standard of identity. It describes and identifies the commodity for many factors, including its ingredients and, where applicable, residues and additives. The standard further specifies labeling requirements, sampling and testing procedures, and requirements for hygiene, including protective measures and safeguards to assure a sound, wholesome, and marketable product.

Acceptance of Codex Standards by individual countries is strictly voluntary.

Much of the work of the Commission is conducted by a number of committees, each chaired by one of the participating countries. The United States chairs three committees—Food Hygiene, Processed Fruit and Vegetable, and Poultry Meat.

In addition, the U. S. sends government delegates and industry advisors to take part in the work of almost all Codex Committees, and in this way has an opportunity to use its extensive experience to help in the establishing of workable definitive standards.

REPORT OF THE U.S. PUBLIC HEALTH SERVICE TO THE NATIONAL CONFERENCE ON INTERSTATE MILK SHIPMENTS[1]

R. D. VAUGHAN[2] AND R. A. BELKNAP[3]

Environmental Sanitation Program
National Center for Urban and Industrial Health
Department of Health, Education, and Welfare
Cincinnati, Ohio

It is indeed a pleasure for me to attend the Eleventh National Conference on Interstate Milk Shipments (NCIMS) and review with you the activities of the Public Health Service during this past biennium. I feel also that it is important we discuss briefly some of the indicated problems and to reaffirm our deep-seated interest in this voluntary State-Public Health Service cooperative certification program.

You are, by now, well aware the Public Health Service has undergone and is still undergoing a reorganization of major proportions. This reorganization and some of our long-range objectives have been described in detail by Dr. Richard Prindle. I can only reiterate that I feel we in the Environmental Sanitation Program will be better able to live up to our commitments and obligations to the States and the NCIMS because of this reorganization. It is only natural that after 22 years without a change in structure, updating of the service organization and realignment of our forces was necessary and desirable to accept the challenge of our Nation's changing health needs. This reorganization, however, does not alter the basic job to be done and all of our functions will continue—no responsibilities are being cast aside.

Since implementation of the NCIMS in 1951, there has been a continuous growth in this unique Federal-State program. During these sixteen years of operation, the program has gained a prestige and national stature which has facilitated its utilization and acceptance. The first publication of the *Sanitation Compliance and Enforcement Ratings of Interstate Milk Shippers* listed only 160 shippers, located in 17 States. The current list of certified interstate milk shippers includes the names and milk sanitation ratings of 1,597 shippers, located in the 48 contiguous States and the Distict of Columbia and representing approximately 175,000 dairy farms. Wide acceptance of the Interstate Milk Shipper Program is also indicated through its utilization and reference to the quarterly list by the various federal agencies. The Veterans Administration uses the program to purchase milk and milk products for their 166 hospitals throughout the country. Milk from sources approved under this program is served on interstate carriers. Public Health Hospitals, Indian Health Service Hospitals and schools purchasing milk and milk products under federal specifications now utilize the program. Recently the Department of Defense drafted into their joint regulations for the purchase of fresh whole milk specifications to include the requirements of the Interstate Milk Shipper Program.

PHS Responsibilities To NCIMS

The responsibilities delegated to the Public Health Service by the NCIMS include: standardization and certification; publication of compliance ratings; training of regulatory and industry personnel; conduct of check ratings; evaluation of milk laboratories; and the issuance of interpretations. During the past two years, the Service has conscientiously attempted to carry out these responsibilities to the NCIMS to the extent that existing staff and fiscal resources would permit.

Standardization of personnel has been carried out as required in the agreements of the NCIMS. Public Health Service regional milk consultants have made every effort to fulfill this responsibility by certifying or recertifying 111 State milk sanitation rating officers in 1965 and 1966. Currently there are 158 certified State milk sanitation rating officers listed in the quarterly publication *Sanitation Compliance and Enforcement Ratings of Interstate Milk Shippers.* These milk sanitation rating officers are located in each of our 50 States. Upon these men, whose work has been certified by representatives of the Public Health Service, rest the integrity and success of the IMS Program. When State milk sanitation rating officers certify to the Public Health Service the ratings of an interstate milk shipper for listing, they affirm that the reported supply is under full-time routine supervision and laboratory control, and that the supervision and surveying procedures are conducted in ac-

[1]Presented as a Progress Report to the Eleventh National Conference on Interstate Milk Shipments. Miami Beach, Florida, April 3, 1967.

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[3]Mr. Belknap is Staff Officer, Milk Sanitation Section, Milk and Food Branch, Environmental Sanitation Program.

cordance with the agreements outlined in the publication *Procedures Governing the Cooperative State-Public Health Service Program for Certification of Interstate Milk Shippers.*

Publication of the quarterly issue of the *Sanitation Compliance and Enforcement Ratings of Interstate Milk Shippers* continues to be a major administrative operation for our headquarters personnel. Each succeeding issue records the addition of new shippers and new names on the mailing key for distribution. The latest publication shows approximately 1,600 certified shippers participating in the Interstate Milk Shippers Program. Each quarter, over 3,000 copies are mailed to interested individuals, companies, or agencies. Because the continued growth of the quarterly issue magnifies publication details, we ask that State milk sanitation rating officials submitting information relative to the ratings of interstate shippers assure themselves that all pertinent data is supplied on the report form.

The Public Health Service extends to all regulatory agencies and State educational institutions assistance in the training of milk sanitarians. Various courses have been offered through our headquarters staff, regional consultants, and the facilities located at the National Center for Urban and Industrial Health in Cincinnati, Ohio. Special courses have been developed for the presentation of the requirements of the Pasteurized Milk Ordinance, and the installation and testing of pasteurization equipment. The training programs pertaining to the 1965 Grade A Pasteurized Milk Ordinance have proven to be highly successful and of value to those attending. Although absolute uniformity is difficult to obtain, a relatively high level of uniformity has been reached, attributable largely to annual regional seminars, specialized training courses, and field standardization activities. During the past two years, 19 regional seminars were held for certified State Milk Sanitation Rating Officers.

Since our last report to you, regional milk consultants made 637 check ratings of listed shippers. As a result of these check ratings, it was necessary to request State certifying agencies to resurvey or reinspect 81 shippers because conditions indicated the compliance rating was significantly lower than the listed rating. While we do not consider this action to be a reflection on the State certifying agency concerned, it does point to the necessity of continued vigilance and we must weigh well the consequences when any one phase of this program is neglected. It should be remembered check ratings are not for the standardization of the procedures used by rating officers, but relate to supervision. Check ratings are used to determine the validity of the sanitation compliance status of the shippers supply between official ratings. In addition to the conduct of check ratings, regional milk consultants have evaluated the inspection and rating work of 17 State milk sanitation programs.

In response to requests from State supervising agencies, all requirements for approval of milk laboratories were compiled and published in 1965 as PHS Publication No. 999-FP-3 entitled, *Evaluation of Milk Laboratories.* Approximately 3,100 copies of this publication, which described in detail sampling, laboratory survey, and split sample procedures were distributed to laboratory and milk sanitation rating personnel during 1965 and 1966. The evaluations of State milk laboratories by the Public Health Service, and Public Health Service endorsement of State milk laboratory approval programs, have stimulated and encouraged local authorities and the dairy industry to improve facilities and procedures, and to achieve greater uniformity and accuracy of microbiological and chemical analyses.

A new Public Health Service publication (No. 999-FP-5) listing *Milk Laboratories Approved by Federal and State Agencies* was first published in 1966, and approximately 4,000 copies have been distributed to participating State, municipal, and industry personnel. The 1967 edition which is now being distributed, identifies 76 State designated milk laboratory survey officers in 49 States, the District of Columbia, and Puerto Rico, 62 of whom have been certified by the Public Health Service. In the 881 State and local milk laboratories listed therein by name and location, 1,853 analysts were approved by Federal or State officials for the examination of milk and milk products.

To help facilitate compliance of each State milk laboratory certifying agency with the requirements on sampling, a shortened one-page survey form for milk laboratories entitled "Bulk Tank Milk Sampling" was printed during 1966 and over 9,200 copies were distributed. Approximately 43,000 copies of other milk laboratory survey forms pertaining to the different laboratory methods were requested by and distributed to States during 1966.

During 1965 and 1966, 44 surveys were made of 30 State health and 12 State Agriculture Department central milk laboratories, and the health department central laboratories in Puerto Rico and the Virgin Islands. Public Health Service milk laboratory survey officials have made joint surveys of 40 local laboratories with 32 different State designated milk laboratory survey officers. Most States are in substantial compliance with Public Health Service criteria for split milk sample programs.

At the Tenth National Conference two years ago, in discussing "Program Areas and Service Recommendations," it was stated that: "We have been very disappointed in the lack of completion of milk samp-

ling survey forms by the participating States." Although the sampling program in some States has improved due to specific assignment of personnel at the State level, in seven States (two of which have large numbers of shippers), the adequacy and correctness of sample collection has not been documented. As of January 1, 1967, sampling surveys are not being conducted in 17 percent of the States, are in arrears for the past two years in 32 percent, or only token participation (less than one report per laboratory) exists in 23 percent. Accumulatively 55 percent of 47 shipper States and the District of Columbia do not appear to be substantially supporting the agreements of this Conference pertaining to sampling.

Proper interpretation of the Ordinance for this voluntary program is a matter of considerable importance if a high level of uniformity among State and Public Health Service personnel is to be attained. Aside from our training programs and annual seminars for State rating officers, headquarters office issues coded memoranda in respect to interpretation of items of sanitation and the acceptance of equipment. To facilitate this matter, we developed this past year, and presented to each certified rating officer, a *Manual of Interpretations.* This manual contains an index and all memoranda previously sent to the States, and is a valuable tool in seeking uniformity.

PHS-NCIMS Committee Relationships

In addition to the foregoing responsibilities, the Public Health Service during this past two-year period has cooperated with the various NCIMS committees in working toward the completion of their respective assignments.

We are extremely pleased with the results obtained by the Committee on Single-Service Containers and Closures. Efforts by this Committee have culminated in the publication of a guide for sanitaton standards for the Fabrication of *Single-Service Containers and Closures for Milk and Milk Products.* Application of this guide will assure that single-service containers and closures, and the materials from which they are formed, will continue to be safe and in compliance with bacteriological standards of item 12p of the *Grade A Pasteurized Milk Ordinance.*

At the Conference in Louisville, Kentucky, the 1965 Pasteurized Milk Ordinance was adopted as the basis for the Interstate Milk Shippers Program, effective July 1, 1967. At that time, there were only two controversial items for which study was requested by the Conference; i.e., permit issuance and suspension and temperature requirements for pasteurized milk and milk products. Through the good work of the committees of this Conference, together with representatives of State, Public Health Service, and industry, these problems have been resolved to mutual satisfaction of all concerned. There now remain no obstacles to the full implementation of the 1965 Pasteurized Milk Ordinance as the standard for the evaluation of interstate milk sources.

When the Public Health Service began to develop the 1965 edition of the *Grade A Pasteurized Milk Ordinance,* action was taken to strengthen the abnormal milk provisions. This was a step forward, and one which we feel will lead to better control of abnormal milk as well as promote more thorough milk sanitation programs. This is not a case of the Service becoming newly concerned over a problem—we have always been alert to the significance of abnormal milk. From the time of our initial milk ordinance in the 1920's, the Service has stipulated that milk come from healthy udders and cows free of disease. This emphasis toward abnormal milk is directed to include not only mastitis control, but control of pesticide, antibiotic, and radiological contaminants.

Consideration was given to this problem at the last Conference and a Committee on Abnormal Milk Control was appointed to develop a complete Abnormal Milk Control Program to be presented at this Conference. We have cooperated with this Committee and concur with the report, supporting its three-phased approach, with an initial educational approach leading to eventual enforcement. However, we do have some reservations regarding the effective date recommended and encourage a complete discussion by the appropriate task force. Long experience in milk sanitation regulatory work indicates the need of the enforcement provision for any program to be successful. Adoption of a uniform Abnormal Milk Control Program by the Conference will be of considerable value to the participants of the Interstate Milk Shippers Program.

We ask that the Conference continue its Abnormal Milk Control Committee with the expressed purpose of aiding the Service in the development of guidelines for the implementation of abnormal milk control programs.

Publications

The Service has been active in the area of consumer education and information this past year. Three publications were released. The first was a revision of the bulletin, *Safe Milk,* now called *Grade A Pasteurized Milk—Safe and Reliable.* This circular relates to the NCIMS and the certification of interstate milk shippers by describing the development of the program and its benefits to the control agencies, the consumer, and the industry.

Our second publication, *Grade A Pasteurized Milk and Milk Products, Your Best Buy,* is completely new. It is designed to serve as an introduction for

any person interested in the important public health measures involved in the production and processing of Grade A milk and milk products.

The third publication, *What You Should Know About Grade A Milk,* is a revision of the original article written by Leslie Frank. This brochure discusses the nutrient value of milk and how much we include in the daily diet for maximum health; the safeguards applied to milk to prevent the dissemination of disease; and what is being done about cholesterol, chemical residues, and radiological fallout.

We think these brochures will prove helpful to State and local milk control agencies, as well as the industry, as supplementary material for educational programs. Single copies of the publications may be obtained through our regional offices, or quantity supplies may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

GRADE A DRY MILK ORDINANCE

As you know, the Service has revised its *Grade A Dry Milk Products Recommend Sanitation Ordinance and Code,* Supplement 1 to the Milk Ordinance, to the extent that it is now a complete ordinance. It was our desire to have this new Ordinance printed and in your hands prior to this Conference. We have, however, met with much opposition from various sources in respect to the provision covering dry milk in consumer-size packages. We are motivated toward the inclusion of this provision because the U. S. Public Health Service, as the principal health agency at the federal level, is responsible for advancing and protecting the health of the American people. One of the activities of the Service is the development of model ordinances relating to the processing of milk and milk products and other foods which are designed for, and used by, State and local regulatory agencies in the development and maintenance of effective public health programs.

The Public Health Service recognizes the need for bacteriological and sanitary quality of instant dry milk in consumer packages on the market today. Long experience with the Grade A Milk Ordinances has shown that the local and State adoption and use of a nationwide sanitation standard will provide a safe, sanitary, quality product for the consuming public. We believe that the *Grade A Pasteurized Condensed and Dry Milk Products Sanitation Ordinance,* which in its current draft includes coverage of consumer packages, is a practical public health approach to the prevention of illnesses associated with dry milk. We hope that this recommended ordinance and code can be made available for State and local adoption at an early date.

THE USDA SALMONELLA REPORT

At this point, I would like to mention another matter—that of the *Progress Report on the Salmonella Program* published January 24, 1967, by the U. S. Department of Agriculture concerning their salmonella surveillance study for dry milk plants, in which it was stated: "Included among the 214 plants covered by the study were 38 of the 46 dry milk plants listed in January 1, 1967 issue of *Sanitation Compliance and Enforcement Ratings of Interstate Milk Shippers.* The incidence of salmonella-positive samples was substantially the same for these plants as for those not on the Interstate Milk Shippers list." We feel this statement implies a serious indictment of the IMS Program. Such a conclusion would be quite erroneous in consideration of all the facts.

We, and a number of the IMS States, have been quite concerned with the report and the implication that samples of Grade A dry milk, produced under the IMS Program, were salmonella positive. We believe that you will be pleased with the facts as reported to us by USDA. Of the 1,317 total samples taken, 28 were salmonella positive. Of these, only four were reported as product samples. The remaining 24 positive samples were taken from the environment; i.e., floor sweepings, vacuum cleaners, air filters, material found on the roof, etc. You will be further interested to know that our investigation has shown that of the four positive samples reported to us, one sample was not a product sample, but an environmental sample; one sample came from a plant that was not on the IMS list at the time of sampling; and the two remaining samples came from ungraded non-fat dry milk.

In this same connection, our laboratories at Cincinnati have reported to us that of 211 samples of Grade A dry milk obtained from 39 listed shippers, all were salmonella negative. The Communicable Disease Center in Atlanta has reported that all Grade A dry milk samples analyzed by them have been salmonella negative. In addition, none of the States have reported positive samples in Grade A dry milk. These findings reinforce our convictions that a dry milk and milk products ordinance which emphasizes sanitation practices from production through processing, proper pasteurization and pasteurization controls, and protection against post-processing contamination, is the best mechanism for preventing the transmission of salmonellosis and other illnesses through dry milk.

SANITATION RATINGS

The Service has recently revised *Methods for Making Sanitation Ratings of Milksheds.* Copies of the new "Methods" have been placed in the Task Committee on Standards for their information. The new "Methods" follows very closely the previous publication, except for one principal change. The old "Methods" dealt only with community ratings. The 1966 revision includes not only procedures for community ratings, but also provides procedures for individual ratings of farms and plants. The new additions are a compilation of previous memoranda submitted to States as interim procedures for individual ratings.

The points for the various items of sanitation on farms and plants, as well as enforcement procedures have, of course, been reallocated to follow the sanitation requirements of the 1965 Ordinance. This information pertaining to scoring was supplied to the States this past summer. Numerous field trials and comparisons of the numerical scoring of the two "Methods" show results of plant and farm ratings to be substantially the same.

Several problems concerning possible modification of the procedures have been called to the Service's attention and no doubt will be presented to this Conference for consideration. Those problems of interest deal with ratings of multi-jurisdictional milksheds, volume control, and reciprocity.

Increasing numbers of multi-jurisdictional and multi-regional milksheds are being rated for certification purposes. Area ratings of these multi-supervised sheds have not been too dependable, and have precipitated complex administrative problems in the conduct of surveys, check ratings, and listings. Suggestions from this Conference concerning revaluation of this particular problem will be most welcome.

While volume control has been a part of Conference procedures and space is provided on the Interstate Milk Shippers Report (Form 1659) for recording volumes, such information is generally lacking. From an administrative standpoint, the statistics relative to numbers of plants, receiving and transfer stations, dairy farms, and volumes of milk and milk products involved in interstate commerce prove to be of immense value. We, therefore, ask the Conference to study the feasibility of developing a uniform volume record form for use by the regulatory agencies and the industry. We further recommend the appointment of a standing committee to collect, evaluate, and transmit to interested agencies the volume of milk and milk products certified and moved under the procedures governing the State-Public Health Service Interstate Milk Shippers Program.

RECIPROCITY—ESSENTIAL TO PROGRESS

The lack of reciprocity on the part of some areas still constitutes a problem in respect to the free movement of milk and milk products of high sanitary quality between States and municipalities. We feel the duplication of inspection or the use of milk sanitation regulations as trade barriers embarrasses the Conference in general, and milk control agencies in particular. The Service can only encourage the complete acceptance of the philosophy of reciprocity as promoted by the NCIMS. We urge those areas having provisions in their State or local laws requiring the inspection of milk shipped in from points beyond the limits of their routine jurisdictions, or having unwarranted requirements that place undue economic burden on the industry, to make all effort possible to cause the elimination of such provisions in their laws. Sixteen years of experience has indicated that the principles of the NCIMS can and do work for the benefit of the consumer, the milk control agency, and the industry.

We are all aware the NCIMS has been instrumental in the improvement of milk being shipped in interstate commerce; that the program has stimulated a high degree of uniformity in the application of sanitary standards; has improved milk laboratory control methodology; and has eliminated the need for the costly and wasteful practice of duplicated inspections. Yet, we are aware also that we still have unsolved problems and points of contention in respect to certain phases of this program.

The Service will continue to work with all participants of the NCIMS to overcome those particular problems peculiar to the individual areas by a studied approach, giving consideration to the public health significance as well as economic significance of the deficiencies. We hope to provide the stabilizing influence in matters concerning the Interstate Shipper Program. The basic mission of the Public Health Service is to advance and protect the health of the American people. In partial fulfillment of this mission, we will continue to strive with the resources at our command to give the consumers of this country the best and safest possible milk supply.

I am most appreciative of this opportunity to highlight the accomplishments of the Public Health Service in carrying out its responsibilities to the Conference during the period since your last meeting. The Public Health Service is pleased to be a participant in this highly successful State-Federal program. Through the cooperative effort, I am sure that in the years to come, we can continue to resolve the many problems of mutual interest to the benefit of all.

USE OF A MODIFIED MILK QUALITY TEST ON REFRIGERATED MILK AND COMPARISON WITH OTHER MASTITIS TESTS[1]

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(Received for publication December 15, 1966)

Summary

The milk quality test (MQT) was found to be inadequately sensitive for testing milk after overnight refrigeration. It was adapted, however, so it could be used on refrigerated milk. It proved to be a fast, simple and accurate indirect test for mastitis that compared quite well with other known mastitis tests.

The milk quality test (MQT) used under barn conditions is reported to be sensitive enough to detect mastitis. However, when used on milk that has been held in the cold room overnight, the sensitivity of the test is questionable. Frank and Pounden *(4)* reported that retests of refrigerated samples by the California mastitis test (CMT) gave reactions of lesser intensity than the original test. They noticed that reactions of 3+ and 4+ decreased to 2+ or less. Data of Singh and Marshall *(8)* indicate possible decreased intensities in CMT reactions of refrigerated milk containing large numbers of beta-hemolytic streptococci that produce deoxyribonuclease. Also, they indicated that milks contaminated with surface-active agents from detergents might lose CMT reactivity. Temple *(9)* in modifying the Whiteside test, found that refrigeration of the milk had a tendency to intensify the test reaction and readings were further intensified by a 2:5 ratio of reagent to milk. Since both the MQT and Whiteside tests detect mastitis because of leucocytes in the milk, and since refrigeration probably preserves leucocytes but inhibits their activity a modification of the MQT giving reliable sensitivity with refrigerated milk would be useful in screening bulk-tank milk for evidence of mastitis.

Materials and Methods

Mastitis tests.

The Hotis test was done according to Blobel et al. *(3)*. The MQT was used according to Noorlander *(7)*, which is similar to the CMT. Catalase activity was determined with The Roundy Mastitis Test as described by Noorlander *(7)*. In this test a Roundy "unit" is the quantity of catalase required to decompose 1 mg of 100% H_2O_2 in 2 hr at 95 F. If 3 mg or units of peroxide are decomposed, the milk is considered mastitic and probably would show approximately 500,000 leucocytes/ml. Leucocyte concentrations in the milk were determined by the direct microscopic method *(1)*. A 0.01-ml pipette was used to measure the milk samples, and a platinum wire shaped like a fish hook was used to spread the milk over the circular 1-cm² area. The acid- and water-free stain (AWF) *(1)* was used to stain the milk smears. The modified Whiteside test was done according to Temple *(9)*. A modified catalase test was used according to Lyle *(5)*. One ml of 3% H_2O_2 is drawn into a 12-ml plastic syringe; then 9 ml of milk is drawn into the syringe. The syringes are then inverted and incubated at room temperature for 3 hr in a test tube rack. Then the ml of gas produced was recorded and converted to the percentage of the original volume of the milk.

Herds tested.

The data reported were obtained by testing the milk from selected cows in two Grade A dairy herds. One herd was at Madison, Wisconsin (Tables 1 and 2) and one at Bowling Green, Kentucky (Table 3). The cows were near mid-lactation.

Modified milk quality test.

Preliminary experiments indicated that the MQT could be modified and be sensitive when performed on refrigerated milk by mixing 5 drops of milk and 4 drops of the MQT reagent on a plate of glass viewed against a black background. This mixture was immediately stirred very rapidly with a 6 inch applicator stick at a low angle for at least 25 sec. When the stick was removed from the milk the gel adhered to the stick and pulled out a continuous viscous strand, sometimes for a few inches if the milk was quite mastitic. Mixtures giving positive reactions contained stringy, viscous material. A 3+ reading on the MQT modification thickened rapidly on stirring for about 4 sec. A 2+ reaction thickened after about 6-10 sec, and a 1+ reaction thickened between 10-15 sec. Any positive reaction that developed between 15-25 sec was designated as a trace reaction. A negative reaction stayed a light blue, whereas positive reactions became darker.

[1]Part of this material is based on a thesis submitted by the author to The University of Wisconsin, in partial fulfillment of requirements for the Ph.D. Degree.

TABLE 1. COMPARISON OF MODIFIED MQT WITH STANDARD MQT AND OTHER MASTITIS TESTS

Cow No.	MQT	Modified MQT	Hotis test	White-side	Roundy test	Leucocyte Counts/ml
1	–	2+	+	1+	5	2,900,000
2	–	1+	–	–	6	450,000
3	–	–	–	–	–	500,000
7	–	2+	–	1+	6	1,100,000
11	–	1+	+	2+	4	1,350,000
13	T	2+	–	3+	6	2,930,000
14	–	1+	–	1+	3	1,285,000
15	–	1+	+	2+	6	1,815,000
20	–	1+	+	2+	–	1,340,000
24	–	–	–	–	–	69,000
25	–	–	–	–	–	135,000
29	–	–	–	–	3	83,000
31	–	–	–	–	–	<50,000
32	–	–	–	–	–	44,000
33	–	2+	+	2+	3	1,790,000
34	–	1+	+	T	–	900,000
39	–	–	–	2+	–	133,000
50	T	–	–	–	5	240,000
51	T	3+	+	3+	6	5,015,000
52	T	–	–	–	–	185,500
58	–	–	–	–	–	205,000
64	–	–	–	T	–	250,000
66	1+	–	+	–	–	33,000
67	–	1+	–	2+	5	5,650,000

RESULTS

Composite milk samples.

As can be seen in Table 1 this test, as modified, was much superior to the original MQT done on refrigerated milk. Apparently refrigeration decreases the intensity of positive reactions obtained with the MQT. The modified test also agreed favorably with the other mastitis tests on these composite milk samples from selected cows in the herd.

Quarter milk samples.

The results above demonstrated that the modified MQT was sensitive on composite milk samples. If a composite from a particular cow is positive, then quarter samples should be examined bacteriologically. If quarter samples are obtained at the evening milking and refrigerated overnight before bacteriological examination, then the modified MQT would be a quick, accurate means of selecting samples for the more vigorous diagnostic test.

Sixty-three quarter milk samples were collected and tested by the modified MQT, modified Whiteside method, and leucocyte count. The average leucocyte count of each sample for which the reactions for the Whiteside and modified MQT were positive are included in Table 2. The leucocyte counts paralleled the readings for both the Whiteside and the modified MQT tests, and it is apparent that these tests reflect the abnormal levels of leucocytes in milk and are thus indicative of inflammation. These data (Table 2) show that the trace reaction of the modified MQT is adequately sensitive in view of the fact that generally only milk containing more than 500,000 leucocytes/ml is considered to be mastitic *(6)*.

Comparison of MQT done at the cow's side with a syringe catalase test and modified MQT performed on Refrigerated composite milk samples.

The results in Table 3 suggest that the modified MQT compared favorably with other mastitis tests used for composite milk samples. These data were obtained by different technicians but supervised by one person, testing milks from a herd different from that yielding the data presented in Tables 1 and 2. It was relatively easy for other people to perform the test properly. All cows producing positive milks were later shown to be infected with coagulase-positive *Staphylococcus aureus* in one or more quarters.

TABLE 2. AVERAGE LEUCOCYTE COUNTS ON QUARTER MILK SAMPLES WITH POSITIVE WHITESIDE AND MODIFIED MQT TESTS

	Whiteside	Modified MQT
T = Trace reaction	350,000	356,666
1+ Reaction	1,027,500	1,364,285
2+ Reaction	3,445,833	3,990,000
3+ Reaction	4,259,166	4,309,166

DISCUSSION

Bakshi *(2)* found that the leucocyte count was the most reliable indirect test for mastitis and that cultural examination was the most efficient. A combination of these tests would be a good index of mastitis, but generally the farmer cannot afford this type of examination. A thorough diagnosis of mastitis in a herd is difficult to obtain with only one test as shown in the data. But, it would be advantageous to the dairy farmer to learn to perform rapid and simple mastitis tests to be able to detect subclinical as well as clinical mastitis in the herd.

The MQT could be done at the cow's side and then for a more sensitive test on doubtfuls a composite or quarter milk sample could be refrigerated overnight and then tested with the modified MQT. Since more and more dairy farmers own the MQT or CMT reagents, this approach seems feasible rather than having the farmer run the modified Whiteside which would require preparation of alkali that is less

TABLE 3. COMPARISON OF VARIOUS MASTITIS TESTS

Cow No.	MQT Test on Quarters: A	B	C	D	Catalase (% gas)	Modified MQT
12	1+	–[a]	1+	–	55	3+
15	1+	1+	1+	2+	87	3+
16	–	–	–	–	23	–
24	–	1+	–	–	48	2+
27	2+	3+	2+	2+	93	3+
37	–	–	1+	–	61	2+
40	–	2+	2+	–	50	3+
44	1+	2+	–	–	52	2+
47	–	2+	1+	–	89	3+
49	–	1+	1+	3+	93	3+
61	–	1+	–	–	17	1+
70	1+	1+	–	–	35	3+
77	–	1+	–	–	40	1+
85	–	1+	–	–	42	3+
417	–	1+	1+	–	58	1+

[a]negative.

stable than the standardized purchasable reagents used for the other tests.

Also the farmer could use the modified MQT to test the herd milk from the bulk tank which cools the milk to about 32 to 40 F. The test would also be useful in dairy laboratories for screening producer milk that has been refrigerated for some time, as most now has been by the time it is received by the dairy.

ACKNOWLEDGMENT

The author wishes to express his appreciation to the people who have run the modified MQT and to Miss Elsie L. Cooper who assisted in part of this research.

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WHY 4000 DAIRY FARMERS QUIT[1]

GLYNN MCBRIDE

Department of Agricultural Economics

In the fall of 1966, Ray Hoglund and I conducted a survey of about 4,000 milk producers who had quit dairying in Michigan during the preceding three years. Our purpose was to get some indication of their size and other characteristics and their reasons for quitting. This, we thought, would provide some insights as to what we might expect in the future.

These were the major findings—

1. Their size on basis of acres operated did not differ from other dairy farmers.
2. About three-fourths were milking less than 30 cows when they quit. About 40 percent milked less than 20.
3. All had milked more cows at some time than they were milking at the time they quit.
4. About one-sixth used some hired labor.
5. Their average age was 54 years.
6. One-fifth had been shipping milk over 30 years.
7. Reasons for quitting shown in table below:

Economic or financial	52.8%
Help problems	19.4%
Health	12.1%
Age	7.3%
Inspection standards	6.5%
Other	1.9%
	100.0%

Economic or financial problems ranked first. Help problems, including not only hired help but sons not wishing to stay on the farm, ranked second, Urban sprawl was a factor.

But a strong undercurrent of concerns of a sociological nature was evident. Desire for free week ends, shorter work hours, vacations, etc., were frequently mentioned. This may have important implications for the family farm as it is usually defined, for credit sources, for estate transfers and for debt management.

[1]Summary of presentation prepared for Dairy Fieldman's Conference, Kellogg Center, Michigan State University, East Lansing, April 18, 1967.

QUALITY CONTROL PROGRAMS OF MILK MARKETING COOPERATIVES IN THE UNITED STATES[1]

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Summary

Replies were received from 63 of 123 cooperatives surveyed. The smallest cooperatives were located in the Western region and the largest in the North Atlantic region. There was no relationship between the size of the organization and the number of fieldmen employed per 100 members or per million pounds of milk produced. Of the 57 cooperatives employing fieldmen, 45 reported that 50% or more of their fieldmen's time was devoted to raw milk quality problems. Opinion was divided about equally as to whether raw milk quality problems should be the responsibility of the cooperative, or jointly of the plant, the cooperative, and the regulatory agency. A great diversity was found in the frequency and method of evaluating raw milk quality by the cooperatives. Eighteen basic types of tests were used, with tests for inhibitors and total bacteria counts being the most popular.

Although it cannot be denied that the sanitary quality of raw milk has improved greatly during the present century, there appears to remain considerable room for progress. This is pointed up by recent reports of Bucy and Randolph *(1)* and Ohri and Slatter *(2, 3)*.

For effective results, some segment of the dairy industry must assume definite responsibility for the raw milk quality control program. Historically, the initiative was first taken mainly by the processor-distributors. Later, with the farmer cooperative movement becoming a dominant feature of the overall agricultural program, the milk producer cooperatives assumed more and more of the responsibility for the quality control program. With this development, many dairy plants either drastically reduced or discontinued their field programs. This was done on the assumption that the milk producer cooperative, with its staff of fieldmen, would be in the best position to work directly with individual producers in helping them overcome their raw milk quality problems.

In recent years there has been a definite trend back to a stronger dairy plant field program. The implication is that the processor-distributors have not been entirely happy with the quality of the raw milk delivered to their plants. These developments, plus the personal observations of the authors, suggested that wide differences may exist among milk producer cooperatives in the activities and responsibilities they assume in field and quality control work.

It was believed that many cooperative managers would welcome some sort of "standard of comparison" that would aid them in evaluating their own quality control programs. Such was the motivation for conducting the study reported in this paper.

Method

Using the questionnaire approach, a survey was made of the field and quality control programs of milk producer cooperatives in the United States. The questionnaires were mailed to the managers of 123 major cooperatives, most of which handled Grade A milk.

Results and Discussion

Replies were received from 63, or 51% of the organizations. The geographical distribution of the cooperatives responding and some information indicating their size and scope of operation are shown in Table 1. As would be expected, the smallest cooperatives, whether measured in terms of membership or total milk production, were in the Western region. The largest organizations, on the other hand, were found to be located in the North Atlantic states. Other characteristics tabulated for the purpose of comparing magnitude of operations in the five regions are the number of states, counties, and plants served. In the latter category the plants include not only processor-distributors but also cooperative-owned plants.

Data presented in Table 2 show that there was a great deal of variation among the 63 cooperatives in the quantitative aspects of their field programs. Study of the data in detail revealed that there was no relationship between the size of the cooperative, whether measured in terms of the number of members or total monthly milk production, and the number of fieldmen per 100 members or per million pounds of milk produced. Fifteen of the organizations employed both full-time and part-time fieldmen.

Perhaps more important than the number of field-

[1]Published with the approval of the Director of the Kentucky Agricultural Experiment Station as Journal Article No. 66-5-115.

TABLE 1. GEOGRAPHICAL DISTRIBUTION AND SIZE CHARACTERISTICS OF COOPERATIVES RESPONDING TO QUESTIONNAIRE

Region[a]	Number	No. of members		Monthly prodn (1000 lbs.)		No. states served		No. counties served		No. plants served	
		Range	Average	Range	Average	Range	Average	Range	Average	Range	Average
North Atlantic	7	393-11,500	3,110	9,167 to 275,000	76,012	1-6	3.2	4-84	34	3-62	27
North Central	29	26-15,000	2,213	750 to 256,067	46,281	1-5	1.9	1-135	38	1-225	24
South Atlantic	5	35-1,241	719	1800 to 62,426	28,365	1-5	3.2	14-78	39	1-22	11
South Central	11	140-2,711	926	6,853 to 85,000	28,408	1-4	2.4	14-105	38	4-30	13
Western	11	46-1,700	463	2,500 to 41,862	11,889	1-2	1.5	3-23	9.5	1-12	5.5

[a]North Atlantic: Me., N.H., Vt., Mass., R. I., Conn., N. Y., N. J., Pa.
North Central: Ohio, Ind., Ill., Mich., Wis., Minn., Iowa, Mo., N. D., S. D., Nebr., Kan.
South Atlantic: Del., Md., Va., W. Va., N. C., S. C., Ga., Fla.
South Central: Ky., Tenn., Ala., Miss., Ark., La., Okla., Tex.
Western: Mont., Idaho, Wyo., Colo., N. Mex., Ariz., Utah, Nev., Wash., Oreg., Calif.

TABLE 2. FIELDMEN EMPLOYED BY COOPERATIVES RESPONDING TO QUESTIONNAIRE

	Number of fieldmen		Number of full-time fieldmen[a]	
	Full-time	Part-time[b]	Per 100 members	Per million lbs. milk per month
Range	1-57	1-3	0.10-1.53	0.04-0.49
Average	6.8	1.6	0.59	0.22

[a]Excluding the 5 organizations employing no full-time fieldmen.
[b]Based on the 18 organizations employing part-time fieldmen.

men employed by a given cooperative is the type of activity to which they devote their time. Results from this part of the survey are presented in Table 3. All cooperatives employing fieldmen (57) reported that their fieldmen spent some portion of their time on raw milk quality problems. The proportion of such time varied from 15% to 100%, with 45 of the organizations reporting 50% or more. Only 19 of the cooperatives indicated that their fieldmen gave as much as 25% of their time to procurement activities. Herd management problems claimed 25% or more of the fieldmen's time in only 13 of the organizations.

Although the questionnaire did not ask the respondents to specify what the "other" activities were, this type of information frequently was included in the replies. Some of these "other" activities reported were: "Testing bulk tank," "check testing," "official farm inspections," "office," "member relations," "service," "tank contracts and administrative," and "contract hauler supervision."

It was recognized that administrative policies and practices would vitally influence the effectiveness of the fieldman's endeavors in a raw milk quality maintenance program. Accordingly, a portion of the survey questionnaire was designed for the purpose of eliciting this type of information. The questions asked, together with a summarization of the answers, are given in Table 4.

The authors believe that the question of who should have the responsibility for the quality control of the raw milk supply involves an area of administrative policy or "philosophy" that is critically fundamental to the entire quality control program. Opinion was divided about equally as to whether raw milk quality problems should be the responsibility of the cooperative or whether this responsibility should be assumed jointly by the plant, the cooperative, and the regulatory agency. These two viewpoints accounted for 92.8% of the replies. In addition

TABLE 3. DISTRIBUTION OF RESPONSIBILITIES ASSIGNED TO FIELDMEN

	Percentage of fieldman's time devoted to various activities									
	100	90	75	60	50	40	25	15	10	Total
	<---------- number of cooperatives --------->									
Procurement					4		15	5	5	29
Milk quality problems	3	3	18	1	20		10	2		57
Herd management problems			1				12	3	8	24
Other			4		3	1	21	4	8	41

TABLE 4. RESPONSES TO QUESTIONS PERTAINING TO QUALITY CONTROL PROGRAMS

Question	No. co-ops responding	Percent responding	
		Yes	No
Does your organization feel that raw milk quality problems are the responsibility of:	(55)		
The processor-distributor?	1	1.8	98.2
The co-op?	25	45.5	54.5
The regulatory agency?	3	5.4	94.6
The three groups jointly?	26	47.3	52.7
Does your organization check the raw milk quality of its members:	(60)		
Routinely?	47	78.3	21.7
Irregularly?	13	21.7	78.3
Are these quality tests performed:	(59)		
In your own laboratory?	30	50.9	49.1
Contracted to another laboratory?	14	23.7	76.3
Both?	15	25.4	74.6
Do you run quality tests on each bulk tank load of raw milk?	63	44.4	55.6
Are your quality standards the same as in USPHS Milk Ordinance and Code (1953)?	61	72.1	27.9
Do you have a definite procedure for excluding from the market raw milk of substandard quality?	58	81	19
Does your milk shed provide a market-wide price incentive for producing high quality milk?	63	20.6	79.4

to the answers to this question shown in Table 4, five managers thought that the quality control work should be the joint responsibility of the cooperative and the regulatory agency; one, of the plant and the co-operative; and one, of the plant and the regulatory agency. One respondent did not answer this question.

The frequency and method of evaluating the quality of the milk produced by their members varied greatly among the cooperatives, as shown in Table 4. One respondent did not indicate where the laboratory work was performed. Only three respondents said that their organizations did no checking on raw milk quality for their members.

The majority of the cooperatives did not make it a practice to check each tankload of milk. The inference might be made that these tanks were spot-checked for quality appraisal, but the answers do not definitely substantiate this. The predominant comments (15 out of 17) from the respondents whose quality standards differed from those of USPHS were to the effect that their standards were more stringent than USPHS requirements. Several others stated that their standards were patterned after state laws or local ordinances, which differed in one or more details from the USPHS specifications. One respondent commented: "Our members are inspected by five different health departments."

Most of the explanations given of the methods for excluding milk of sub-standard quality from the market were that such milk was rejected at the receiving point. This would appear to be related to the fact that replies indicated that a market wide price incentive for producing high quality raw milk was not used extensively. It could be concluded, then, that the prime motive for producing high quality milk is that only such milk is acceptable to the market.

The choice of tests used by a cooperative on raw milk samples of its member-producers is indicative of what is considered by the management to be the current problem areas. Some of these problem areas may be predominantly regional in nature, and thus may account partially for the rather wide diversity of tests used by different organizations. Eighteen basic types of laboratory tests were reported. The number of cooperatives using the various tests at four frequency levels is shown in Table 5. It is obvious that monthly testing represented the most popular time schedule, and that tests for inhibitors and for total bacteria count were the most widely used types of analyses. The frequency of the latter analyses would seem to be an indication of the influence of the regulatory agencies. It will be noted

TABLE 5. QUALITY TESTS PERFORMED ON PRODUCERS' MILK

	Frequency of testing			
	Twice monthly	Monthly	Quarterly	Twice yearly
	<---number of plants--->			
Bacterial Analyses				
Coliform	5	3	1	
Direct microscopic	2	3	1	
Laboratory pasteurization	3	12	1	1
Methylene blue	1	2		
Preliminary incubation		1	1	
Psychrophilic		1		
Total bacteria	22	31		
Adulteration				
Inhibitors	5	28	3	
Residues	2	4	2	
Sediment	5	22	3	
Water (added)	2	11	9	3
Other Tests				
Abnormal milk	7	17	7	1
Acidity		1		
Brucellosis				4
Butterfat	5	1		
Organoleptic	5	2		
Rancidity			2	1
Temperature	1			

that six respondents considered fat determination to be a quality test.

It is no doubt a matter of opinion as to which types of tests had the greatest potential for helping raise the quality level of the raw milk supply. Here again, regional peculiarities may conceivably influence the selection of methods to be used in a testing program. Resistance to change is the probable explanation for continuing to use certain tests (such as methylene blue) after their era of usefulness is past. In other situations, quality control personnel may not be exerting the necessary effort to keep abreast of current developments and to adopt new laboratory procedures to cope with new problems. Training in new techniques may be required.

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AMENDMENT TO RESCIND 3-A SANITARY STANDARDS FOR MANUALLY OPERATED BULK MILK AND MILK PRODUCTS DISPENSERS, MULTI-SERVICE MILK CONTAINERS, AND DISPENSING MECHANISMS, JUNE 14, 1955

Formulated by

International Association of Milk, Food, and Environmental Sanitarians
United States Public Health Service
The Dairy Industry Committee

In accordance with the action of the 3-A Sanitary Standards Committees, as recorded in Section VI of the minutes of the meeting held March 30, 31, and April 1, 1965, the "3-A Sanitary Standards for Manually Operated Bulk Milk and Milk Products Dispensers, Multi-Service Milk Containers, and Dispensing Mechanisms," dated June 14, 1955 are hereby rescinded, effective the day before the new National Sanitation Foundation standards become effective.

Subsequent to this date the "3-A Sanitary Standards for Manually Operated Bulk Milk and Milk Products Dispensers, Multi-Service Milk Containers, and Dispensing Mechanisms" dated June 14, 1955 will become null and void.

Notice has been received that the National Sanitation Foundation standards will be effective May 21, 1967. Pursuant to the action of the 3-A Sanitary Standards Committees set forth above, this amendment shall become effective May 20, 1967.

Notice of this rescinding amendment is hereby published in the Journal of Milk and Food Technology in accordance with the provisions of the 3-A Standard Operating Procedure.

MORE ABSTRACTS OF PUBLICATIONS SELECTED BY FARM SUBCOMMITTEE

Additional publications considered by the Subcommittee on Education, IAMFES Committee on Dairy Farm Methods, to be of interest to field men and sanitarians engaged in milk quality control have been selected for abstracting. The articles in this group, the sixth in the series, have been picked from some 200 brochures, bulletins, pamphlets, reprints and mailing pieces published by various universities and state extension services, departments of health and of agriculture, and suppliers and other business organizations serving the dairy industry.

The articles are recommended by the Subcommittee as reference material and for use in educational and quality promotion programs. In each of the following abstracts the source of the material is indicated as well as the date of publication if available.

CHANGES IN FLAVOR OF RAW MILK FOLLOWING ADULTERATION WITH SOLUTIONS OF SANITATION CHEMICALS

This study was made at the University of Vermont and the data was issued by the Vermont Agricultural Station, Misc. Publication No. 18, June 1962. It consists substantially of 18 tables of data prepared by the authors to reflect the results of the study.

An earlier publication (Bulletin 623) presented the results of studies on several aspects of raw milk quality following dilution of milk by solutions of cleaners and sanitizers. This further report indicated the varied flavor reactions when different formulations of sanitation chemicals are added to milk.

HANDLING MILK IN BULK ON THE FARM

Published as Extension Bulletin No. 342 by Michigan State University in May, 1957, this bulletin is primarily of interest to the purchaser and user of a bulk tank. The economics of using bulk tanks are listed and the advantages in labor saving, higher butterfat tests, savings in hauling costs and other benefits are enumerated. Points to be considered in selecting the size and type in tank are given as well as suggestions on installation and operation.

The proper method of washing bulk cooling tanks and pipeline milkers are outlined at the conclusion of this 24 page brochure.

A COMPARISON OF BACTERIAL GROWTH IN MILK AND IN MILK-WATER COMBINATIONS

Members of the Department of Dairy Husbandry, Kansas State University, are authors of this study. Recognizing that during warm weather the rapid putrefaction often occuring in milk-water residues in utensils suggests more active bacterial development than that which takes place in milk, the study was initiated to determine the factors involved. Although such cases may result largely from particular bacteria types involved, growth stimulation thru dilution with water was thought to be a factor. The study was made to compare bacterial developments in milk and in various milk-water combinations. The conclusions were that presumably the addition of certain amounts of water to milk created more suitable conditions for initial development of some bacterial species than was provided in undiluted milk.

The study originally was published in the *Journal of Dairy Science*, November, 1958, and is available as a nine page reprint.

EFFECTS OF INGREDIENTS USED IN CONDENSED AND FROZEN DAIRY PRODUCTS ON THERMAL RESISTANCE OF POTENTIALLY PATHOGENIC STAPHYLOCOCCI

Earlier studies have been made to determine the effects of various ingredients on thermal resistance of microorganisms in various dairy products. This investigation was undertaken to measure the protection that various ingredients in condensed and frozen dairy products had against potentially pathogenic strains of staphylococcus.

Data from the study indicated that in sugar concentrations up to 14% all the organisms were killed within 30 minutes. In sugar concentrations above 14%, the survivors increased regularly in concentrations up to 57%, the maximum used in the test. In concentrations of serum above 9%, some organisms survived 35 minutes of heat treatment. Butterfat, stabilizer, and emulsifier did not offer any protection in the concentrations observed.

The study was originally published in *Applied Microbiology* in January, 1963, and is available in a five page reprint. The work was done at Kansas State University.

MISCELLANEOUS PUBLICATIONS ON MASTITIS CONTROL

Released under the New York State Mastitis Control Program, a series of five reprints and brochures dealing with mastitis control are available from the New York State Veterinary College, Cornell University, Ithaca. Titles of the brochures are Field Experiences With the New York State Mastitis Pro-

gram, The Invading Organisms and the Host in Bovine Mastitis, The Effect of Certain Mild Stresses to the Bovine Teat Canal on Infection with *Streptococcus Agalactiae*, Quality Tests on Bulk Milk to Determine Presence of Mastitis Secretion, and Mastitis Control. The latter is in the form of a poster recommended for placing in the milking barn. Eight steps are enumerated for carrying on good milking practices.

All of the publications full of information of interest to field men and sanitarians and are recommended by the Subcommittee.

PUBLICATIONS OF PENNSYLVANIA STATE UNIVERSITY—DAIRY SCIENCE EXTENSION

Three mimeographed publications of interest to field men and sanitarians and prepared by extension dairy specialists at Pennsylvania State University are available in mimeographed form. The first outlines steps in the proper cleaning of milking machine vacuum lines.

The second mimeographed deals with field procedures for finding and eliminating mastitis herds and recommends procedures for using various field tests including the California Mastitis Test, the Milk Quality Test, the Modified Whiteside Test, and the Catalase Test. Simplified procedures for making the tests and interpreting the results are set forth in the mimeograph.

The third publication covers milking machine care and in brief form reviews some of the problems from improper operation and maintenance. A step by step procedure for effective operation and care is set forth in the mimeograph.

THE USE OF THE ACID DEGREE VALUE TEST IN THE SOLUTION OF RANCID FLAVOR PROBLEMS

This is a reprint from the 1959 Milk Industry Foundation Convention Proceedings. The author of this article, Dr. J. J. Jezeski of the University of Minnesota, states that in most instances where there is a problem of rancidity due to milk lipase, the use of the Acid Degree Value test will provide information which will be useful in finding the source of trouble. Judicious selection of samples is necessary and close adherence to recommended methods for making the test is required for meaningful results. Under certain conditions both farm and plant problems can be eliminated and it is possible to evaluate individual cows, milking and processing equipment, milking management and other factors as to their relationship of the rancidity problems at hand.

The reprint in the form of an 18 page pamphlet reviews a variety of techniques for measurement of acid values and the relationship of certain physical factors to rancidity problems. Steps for the determination of the acid degree value by a modified method and the formula for calculation of the value conclude the pamphlet.

DAIRY PRODUCTS, MASTITIS AND ANTIBIOTICS

This publication by the Cooperative Extension Service of Iowa State University in January, 1964, discusses several aspects of mastitic milk and problems caused by antibiotics in milk. It reviews phases of these problems from the public health standpoint, the effects of mastitis on milk, and the benefits of good farm sanitation and mastitis control. The results of using antibiotics and laboratory testing of milk is outlined. Written primarily for the producer it is a brief and succinct statement of the problem with recommendations for good milking practice, care of milking machines, proper cleanup, and some review of practical tests for mastitis.

MILK FLAVOR CHARTS

The Cooperative Extension Services of New Jersey, New York and Pennsylvania have prepared and issued jointly two charts in the form of wall posters of placards giving, in a brief and succinct manner, significant information on off-flavors, their causes and the recommended prevention measures.

The first poster is designed for use in dairy barns or milk houses and is entitled "Producer Milk Flavor Chart." The easily read information is arranged in three columns. Under the first column are listed the common types of off-flavor of a farm origin such as oxidized, rancid, feed or weed, unclean, malty or high and other types of medicinal, disinfectant, salty or flat odors. The second column states briefly the commonly recognized causes for the various off-flavors and the third column contains recommended corrective or preventive measures for eliminating the off-flavors.

The second placard entitled "Processor Milk Flavor Chart" is designed more for plant use in handling and processing operations. The off-flavors listed are those attributed to improper receiving, processing, cooling and storage operations, faulty equipment, poor sanitary practices. Again the material is presented in three columns under the headings Off-Flavor, Possible Causes and Prevention.

The cardboard posters approximate 10" x 15" in size and the information is given in brief, well organized form for quick reference. Copies evidently are available from each of the Extension Services at Rutgers University (New Jersey), Cornell University (New York) and Pennsylvania State University.

ASSOCIATION AFFAIRS

PROGRAM

FIFTY-FOURTH ANNUAL MEETING

INTERNATIONAL ASSOCIATION OF MILK, FOOD AND ENVIRONMENTAL SANITARIANS, INC.

In Co-operation With

THE FLORIDA ASSOCIATION OF SANITARIANS

AUGUST 14-17, 1967

Americana Hotel — **Miami Beach, Florida**

REGISTRATION—EAST LOBBY

Monday, August 14—1:00 p.m.-5:00 p.m.
Tuesday, August 15—8:00 a.m.-6:00 p.m.

Registration Fee: $10.00

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SUNDAY, AUGUST 13, 1967

PAN AMERICAN ROOM

1:30-5:30—Executive Board Meeting
8:00-11:00—Executive Board Meeting

MONDAY, AUGUST 14, 1967

1:00-5:00—Registration, East Lobby

SPECIAL MEETINGS:

PAN AMERICAN ROOM

8:00-12:00 Noon—Executive Board
1. Report on Local Arrangements
2. Report of Executive Secretary
3. Report on Sanitarians Joint Council

1:30-5:00—Executive Board
1. Report of Journal Management Committee
2. Regular Agenda

1:30-5:00—Individual Committee Meetings (See Bulletin Board)

7:00-8:30—Affiliate Council Meeting—Pan American Room
AGENDA
To be announced later

7:00-10:00—Executive Board, Directors' Suite
1. Committee Chairmen and Committee Members
2. Meet with Past Presidents
3. Report of Affiliate Council Chairman

TUESDAY, AUGUST 15, 1967

8:00 a.m.—REGISTRATION—EAST LOBBY

MORNING—GENERAL SESSION—MEDALLION ROOM

A. N. MYHR, *President-Elect*, Presiding

9:30 a.m.—INVOCATION:
REV. C. MEEKER

9:35 a.m.—WELCOME

9:50 a.m.—PRESIDENTIAL ADDRESS
P. R. ELLIKER, *President*

10:15 a.m.—THE F.D.A. AND FOOD BORNE DISEASES
K. R. LENNINGTON, Dept. of Health, Education and Welfare, Food and Drug Administration, Washington, D. C.

11:00 a.m.—FOOD INDUSTRY DEVELOPMENTS IN THE FUTURE
R. G. GARNER, Director Utilization Programs and Principal Food Technologist, Co-operative State Research Service, U.S.D.A., Washington, D. C.

11:45 a.m.—NOMINATIONS, 1967

TUESDAY, AUGUST 15, 1967

AFTERNOON—MILK SANITATION SECTION

MEDALLION ROOM

W. C. LAWTON, *Presiding*

1:30 p.m.—Door Prize Drawing

1:45 p.m.—STANDARDS FOR THE MANUFACTURE OF FROZEN DESSERTS
F. E. FENTON, Standardization Branch, Dairy Division Consumer and Marketing Service, U.S.D.A., Washington, D. C.

2:30 p.m.—REPORT ON INTER STATE MILK SHIPPERS CONFERENCE
H. E. THOMPSON, JR., Regional Milk and Food Consultant, U.S.P.H.S., Region 6, Kansas City, Missouri

3:15 p.m.—Break

3:30 p.m.—PROGRESS OF NATIONAL LABELLING COMMITTEE
JOHN F. SPEER, JR., Executive Assistant, Milk Industry Foundation, Washington, D. C.

4:15 p.m.—INSTRUMENTATION FOR IMPROVED SANITATION IN THE FOOD INDUSTRY—PRESENT AND FUTURE
R. B. BEAHM, Taylor Instruments Company, Rochester, New York

TUESDAY, AUGUST 15, 1967

AFTERNOON—FOOD AND ENVIRONMENTAL SANITATION SECTION—WESTWARD ROOM

W. J. DIXON, *Presiding*

1:30 p.m.—Door Prize Drawing

1:45 p.m.—INTERNATIONALS POSITION ON EXTENSION OF 3A STANDARDS TO FOOD PROCESSING EQUIPMENT
DICK B. WHITEHEAD, District Manager,

Klenzade Products, Division of Economics Laboratory Inc., Dallas, Texas

2:30 p.m.—SANITATION PROBLEMS IN THE CITRUS INDUSTRY
D. I. MURDOCK, Quality Control Dept., Minute Maid Company, Plymouth, Florida

3:15 p.m.—Break

3:30 p.m.—SANITARIAN RESPONSIBILITY IN MEAT AND POULTRY PRODUCTION AND PROCESSING
J. J. POWERS, Dept. of Food Science, University of Georgia, Athens, Georgia

4:15 p.m.—MICROBIOLOGICAL PROBLEMS AND STANDARDS IN FREEZE DRYING
K. BIRD, Economics Research Service, Marketing Economics Division, U.S.D.A., Washington, D. C. (Tentative)

TUESDAY EVENING, AUGUST 15, 1967

7:30-9:30 p.m.—EVENING DISCUSSION GROUPS
These discussion groups are for the benefit of our members who have special questions or problems which they wish to discuss informally with others. Selected individuals have agreed to answer questions and otherwise assist in discussions.

7:30 p.m.—USE OF VISUAL AIDS IN EDUCATION AND REGULATORY PROGRAMS
Barbados Room

7:30 p.m.—MILK SANITATION—LABORATORY AND MILK PROCESSING
Bermuda Room

7:30 p.m.—FOOD AND ENVIRONMENTAL SANITATION
Pan American Room

WEDNESDAY, AUGUST 16, 1967

MORNING—GENERAL SESSION—MEDALLION ROOM

M. E. HELD, *Presiding*

8:15 a.m.—Door Prize Drawing

8:30 a.m.—PARTNERS IN THE AMERICAN FOOD INDUSTRY
GLEN WOODARD, Director of Public Affairs, Winn-Dixie Corporation, Jacksonville, Florida

9:15 a.m.—PUBLIC HEALTH TRAINING FOR SANITARIANS
MORTON S. HILBERT, Dept. of Environmental Health, University of Michigan, Ann Arbor, Michigan

10:00 a.m.—Break

10:15 a.m.—Door Prize Drawing

10:30 a.m.—Annual Business Meeting
1. Report of Executive Secretary
2. Report of Secretary-Treasurer
3. Committee Reports
4. 3A Symbol Council Report
5. Report of Resolution Committee
6. Report of the Committee on Inter-Association Co-operation
7. Report of Affiliate Council
8. Old Business
9. New Business
10. Election of Officers
Announcements

WEDNESDAY, AUGUST 16, 1967

AFTERNOON—MILK SANITATION SECTION

MEDALLION ROOM

F. E. UETZ, *Presiding*

1:30 p.m.—Door Prize Drawing

1:45 p.m.—NORTHEAST MILK EQUIPMENT STANDARDS
S. E. BARNARD, Dairy Specialist, Co-operative Extension Service, Penn. State University and U.S.D.A., University Park, Penn.

2:15 p.m.—MANAGEMENT'S ROLE IN DAIRY AND FOOD SANITATION
D. L. GIBSON, Dept. of Dairy Science, University of Saskatchewan, Saskatoon, Saskatchewan, Canada

3:00 p.m.—Break

3:15 p.m.—WHAT THE SANITARIAN SHOULD KNOW ABOUT ULTRA-HIGH TEMPERATURE PASTEURIZATION
H. L. MITTEN, JR., The Creamery Package Manufacturing Company, Chicago, Illinois

4:00 p.m.—DAIRY PRODUCTS PACKAGING (ASEPTIC, SINGLE USE, MULTIPLE USE)
HAROLD WAINESS, Harold Wainess and Associates, Chicago, Illinois

WEDNESDAY, AUGUST 16, 1967

AFTERNOON—FOOD AND ENVIRONMENTAL SANITATION SECTION—WESTWARD ROOM

S. O. NOLES, *Presiding*

1:30 p.m.—Door Prize Drawing

1:45 p.m.—SANITATION IN RECREATIONAL AREAS
J. B. SCHOCK, Environmental Sanitation Program, D.H.E.W., U. S. Public Health Service, Washington, D. C.

2:15 p.m.—CHALLENGES FACING SANITARIANS IN PAKISTAN AND INDIA
E. O. ANDERSON, Director of Milk Quality Improvement, State of Connecticut

3:00 p.m.—Break

3:15 p.m.—MASS EDUCATION OF FOOD SERVICE PERSONNEL
R. A. MARSLAND, Milk and Food Consultant, Environmental Health Program, D.H.E.W., Public Health Service, Atlanta, Georgia

4:00 p.m.—FOOD POTENTIAL FROM THE OCEANS
J. A. HOLSTEN (Tentative)

4:30 p.m.—August 16—Florida Association Annual Business Meeting
T. H. DELANEY, *President*

WEDNESDAY EVENING, AUGUST 16, 1967

6:00-6:50 p.m.—Reception—Ballroom

7:00 p.m.—Annual Awards Banquet—Ballroom
P. R. ELLIKER, *Presiding*
INVOCATION
INTRODUCTIONS
Master of Ceremonies,
PRESENTATION OF AWARDS
1. Past President's Award
2. Citation Award
3. Honorary Life Membership
4. Sanitarian's Award*

INSTALLATION OF OFFICERS

*The Sanitarian's Award is sponsored jointly by the Diversey Corporation, Klenzade Products, Division of Economics Laboratory, Inc., and Pennsalt Chemicals, Inc. and is administered by the International Association of Milk, Food and Environmental Sanitarians.

THURSDAY, AUGUST 17, 1967

MORNING—GENERAL SESSION—MEDALLION ROOM

P. R. ELLIKER, *Presiding*

8:30 a.m.—Door Prize Drawing

8:45 a.m.—THE ROLE OF PUBLIC HEALTH SERVICE, C.D.C. IN THE SANITARIANS PROGRAM
HUGH E. EAGAN, Public Health Advisor, National Communicable Disease Center, Atlanta, Georgia

9:30 a.m.—*SYMPOSIUM*
WHAT THE SANITARIAN SHOULD KNOW ABOUT SALMONELLA AND STAPHYLOCOCCI
(a) IN MILK AND MILK PRODUCTS
STEVE SCHROEDER, Epidemic Intelligence Service Officer, Salmonella Unit, National Communicable Disease Center, Atlanta, Georgia

10:15 a.m.—Break

10:30 a.m.—(b) IN NON-DAIRY FOODS
FRANK BRYAN, Chief, Field Training Unit, National Communicable Disease Center, Atlanta, Georgia.

11:15 a.m.—(c) IN THE ENVIRONMENT AND NON-FOOD ITEMS
GEORGE MALLISON, Chief, Biophysics Section, National Communicable Disease Center, Atlanta, Georgia

ENTERTAINMENT

MEN AND WOMEN

TUESDAY, AUGUST 15
9:00 p.m.—Cheese Spread—Westward Room

WEDNESDAY, AUGUST 16
6:00 p.m.—Cocktail Hour—Ballroom
7:00 p.m.—Banquet—Ballroom

THURSDAY, AUGUST 17
1:30 p.m.—Boat Trip

ENTERTAINMENT FOR THE LADIES

(To be announced later)

TUESDAY, AUGUST 15

WEDNESDAY, AUGUST 16

ANNUAL CONFERENCE OF THE VIRGINIA DAIRY FIELDMEN'S ASSOCIATION

A record of 115 dairy industry people attended the 23rd Annual 2-day Conference of the Virginia Dairy Fieldmen's Association at Virginia Polytechnic Institute, March 9-10, 1967. Subjects discussed the first day were: "Concepts of Disinfection in Mastitis Control" by Dr. Frank Newbould, University of Guelph; "The Milking Machine-Installation, Care and Operation" by Professor S. B. Spencer, Pennsylvania State University; and a panel on "Abnormal Milk Program" with discussions by Dr. J. R. Nichols, V.P.I.; William L. Arledge, Southeast Milk Sales Association; Dr. Carl Olsen, U.S.P.H.S.; R. F. Hill, Dairyman from Orange, Va.; M. W. Jefferson, Virginia Department of Agriculture; and Lewis E. Fraughnaugh, Farmers Creamery Co.

At the business session at the close of the first day, Mr. H. L. Thomasson, Executive Secretary of the International Association of Milk, Food and Environmental Sanitarians, discussed the organization, purpose and activities of the International Association. Members of the Virginia Dairy Fieldmen's Association voted to consider a merging of the Fieldmen's group with the Virginia Association of Sanitarians.

Topics discussed the second day included: "Dairy Farm Accounts and DHIA Point the Way" by Professor K. E. Loope, V.P.I.; "A Look Into The Future of Manufacturing Milk" by J. O. Hill, Carnation Company; "The Changing Dairy Picture In Virginia" by Dr. M. C. Conner, V.P.I.; and "Agricultural Changes" by H. L. Forest, Dairy Division, U.S.D.A.

At the Association's Annual Banquet, Professor W. N. Patterson of the V.P.I. Department of Dairy Science presented an illustrated talk on his "Observations on Dairying in England and Wales." Professor Patterson visited England during the summer of 1966 to study dairy record keeping systems.

1967-68 Officers of the Virginia Dairy Fieldmen's Association are: President, G. D. Shelor, Virginia Dept. of Agriculture; Vice President, Jack Winston, Sealtest Foods; and Secretary-Treasurer, Frank C. Suter, Klenzade Products.

PENNSYLVANIA DAIRY FIELDMEN'S CONFERENCE

The 1967 Dairy Fieldmen's Conference will be held at the new J. O. Keller Conference Building at the Pennsylvania State University on Tuesday and Wednesday, June 13 and 14. The program will include talks on the new abnormal milk program, herd management problems, the Samonella problem, and other areas of current interest.

The annual meeting of the Pennsylvania Dairy Sanitarians Association will also be held during the Conference.

Pre-registration forms and housing information can be obtained by writing to the Agricultural Conference Coordinator, Room 410, J. O. Keller Building, The Pennsylvania State University, University Park, Pennsylvania 16802.

DOOR PRIZES AT THE ANNUAL MEETING

Karl K. Jones, IAMFES Secretary-Treasurer, has issued the annual call for contributions for door prizes to be given lucky members and guests attending the 1967 International meeting at Bal Harbour, Florida, August 14-17.

As in the past the privilege of contributing door prizes is passed around among the various state affiliates and this year the states invited to participate are Connecticut, Del-Mar-Va. Penninsula, Idaho, Illinois, Iowa, Kentucky, Massachusetts, Minnesota, New York, Pennsylvania, Rocky Mountain States and Washington.

Normally, this custom of distributing door prizes gives each state an opportunity to do a little bragging about a distinctive state product and it certainly adds to the interest of being present at the annual sessions.

RECORD ATTENDANCE AT KENTUCKY CONFERENCE

Award winners at Kentucky Sanitarians Meeting (l. to r.): Tom Corum, Outstanding Fieldman; Shelby Johnson, Outstanding Sanitarian; and Al Snazelle, Outstanding Industry Cooperator. H. E. Randolph presided at the Awards Luncheon.

Kentucky's Annual Conference of Fieldmen and Sanitarians, sponsored by the Department of Animal Sciences, University of Kentucky, the Kentucky Association of Milk, Food and Environmental Sanitarians, and the Dairy Products Association of Kentucky, was held at Lexington February 21 and 22, 1967. This year's program attracted an all-time record attend ance.

The Conference program was opened by a welcoming address by Dr. W. P. Garrigus, Chairman of the Department of Animal Sciences, University of Kentucky. Other speakers on the first day's program and their subjects were as follows: William Lovell, a Bowling Green, Kentucky veterinarian—"A Practical Working Abnormal Milk Control Program"; Phil Douglas, Gering Plastics Company, "Vacuum Storage for Silage"; William J. Dorn, Editor and Publisher of Dairy Herd Management magazine, "Trends in the Dairy Industry"; Gail A. Smith, Wyandotte Chemicals Company, "Factors Affecting Spray and Circulation Cleaning on the Farm"; and C. Whitcome, DeLaval Separator Company, "Application of the Mark 11 Milk-O-Tester".

Speakers for the second day's program and their topics were as follows: W. J. Harper, Department of Dairy Technology, Ohio State University, "What About Raw Milk Quality Problems?" and "Sanitation Problems and Control—Today and Tomorrow"; H. J. Buyens, Swift and Company, "Salmonella—Detection and Control"; and George Hanson, U. S. Public Health Service, "U. S. Public Health Concepts of the Dairy Industry".

A panel discussion on "The Impact of Changing Regulations on Dairymen" was a feature of the program. Shelby Johnson, Director of the Food and Drug Program, Kentucky State Department of Health served as Chairman and moderator of the panel. Other members of the panel were: Harry Stratton, Kraft Food Company; J. E. Napier, Sealtest Foods; James McDowell, Kyana Milk Producers; and R. L. Cooper, Calloway County Health Department.

The Conference was climaxed by an awards luncheon with Dr. H. E. Randolph presiding. The Kentucky Association of Milk, Food and Environmental Sanitarians recognized an outstanding sanitarian, an outstanding fieldman, and an outstanding industry cooperator. The recipients of these annual awards were as follows:

Outstanding Sanitarian—Shelby Johnson who was cited for his outstanding work in Kentucky as well as his recognized activities in the milk control programs throughout the United States. The two previous recipients of this award, Mr. R. L. Cooper, Calloway County Health Department, and Mr. Paris Boles, Wayne County Health Department, went on to receive the International Association of Milk, Food and Environmental Sanitarians outstanding service award.

Outstanding Fieldman—Thomas Corum, U. C. Milk Company, Madisonville, Kentucky, who was cited for his outstanding service to producers, cooperation with regulatory and other agencies and the ability to get the job done. The plaque for this award is made available by Sep-Ko Chemicals, Minneapolis, Minnesota, through Mr. Lyman C. Knierem.

Outstanding Industry Cooperator—Al Snazelle, Brown's Dairy Food, Bowling Green, Kentucky. This award is based upon outstanding cooperation with regulatory and other agencies over a period of several years. Mr. Snazelle was cited for his unselfish contributions and cooperation.

The annual business meeting of the Kentucky Association of Milk, Food and Environmental Sanitarians was held in conjunction with the annual Conference and officers for the coming year are as follows: President, J. E. Napier, Sealtest Foods; President-elect, Shelby Johnson; Vice-president, Gene Catron, Kentucky State Department of Health, and Secretary-Treasurer, Leon Townsend, State Department of Health.

NEW SURFACE FINISH STANDARDS ADOPTED FOR CAST STAINLESS CLEANING SYSTEM COMPONENTS

In recognition of a long-felt need for an appropriate method of specifying as-cast surfaces on critical components of food processing equipment, the Alloy

Casting Institute (ACI) Surface Indicator Scale has just been adopted for use in "C-I-P" (cleaned-in-place) systems. Meeting at Miami Florida, on April 8, 1967, the 3-A Sanitary Standards Committees took this action to amend its standards for "Permanently Installed Sanitary Product-Pipelines and Cleaning Systems" in milk processing.

Thus for the first time, engineers and purchasing agents will be able to specify a cast surface finish using a standard designed specifically for stainless castings, instead of having to use a system devised for machined surfaces.

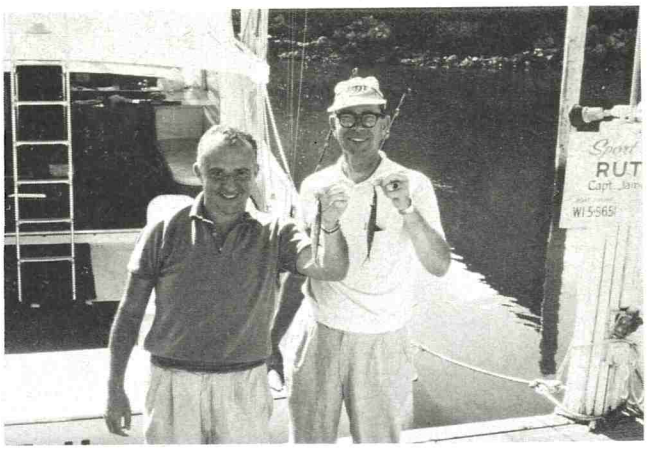
Development of the Scale, a simple but accurate visual comparator, was imperative because the differences between cast and machined surfaces are basic. The frequently-used RMS system is applicable to surfaces having a repetitive pattern such as produced by the regular movement of a cutting tool. Cast surfaces, however, have a randomly-oriented variation which cannot be described satisfactorily by the RMS method.

The ACI Surface Indicator Scale is designed for use in conjunction with a newly-developed ACI Standard for the Visual Inspection of High Alloy Castings. Tailored specifically to cast stainless steel surfaces, the Scale contains exact replicas of the surfaces of four actual high alloy castings. Selected as representative of commercial practice from a large number of specimens, these surfaces bear the designations SIS-1, SIS-2, SIS-3, and SIS-4. In general, SIS-1 is achieved only by ceramic molding. While shell molded castings sometimes meet SIS-1, they more often fall between SIS-1 and SIS-2. The latter can also be produced by fine dry sand molds. Green sand molds generally produce an SIS-3 finish. Surfaces on large sand-molded castings or castings made in coarse sand may be as rough as SIS-4.

The comparator is intended primarily for direct visual inspection. Because its surface "looks like" and "feels like" the surface of a stainless casting, classifying a casting surface is an easy matter.

Industries other than food processing are showing greatly increased interest in proper specification of cast surfaces. Evidence of this is the meeting of a subcommittee of the USA Standards Institute, held April 7 at the United Engineering Center in New York, at which a discussion of the new ACI standard was presented by Mr. E. A. Schoefer, Executive Vice President of the Alloy Casting Institute.

SOME MEMBERS OF THE 3-A SANITARY STANDARDS COMMITTEES SLIP IN A LITTLE FISHING PRIOR TO MEETING IN MIAMI BEACH.



These two characters (Joe Karsh and Dick Whitehead) aren't really as happy over their catch as they appear to be.

"Pinky" Holtgrieve and Don Smith, Waukesha Foundry Company, were the perfect hosts—they caught all the fish—except "Red" Thomasson had to spoil their record by sneaking in with a catch, too.

NEWS AND EVENTS

NCIMS ABNORMAL MILK PROGRAM APPROVED

At its meeting on April 6, 1967, at Miami Beach, Florida, the National Conference on Interstate Milk Shipments gave approval to its Abnormal Milk Program. The Program as revised is as follows:

All segments of the dairy industry should adopt and support a uniform program for the control of abnormal milk. The dairy industry and the milk regulatory authority are jointly responsible and should use all available resources and techniques to eliminate abnormal milk from their milk supply.

Indicator tests for the detection of excessive numbers of leucocytes in milk are recommended as an adjunct to already existing tests to provide the consumer with a safe, high quality product consistent with the production of wholesome dairy products. Uniform screening programs for the detection of leucocytes are needed.

The Grade "A" Pasteurized Milk Ordinance—1965 Recommendations of the United States Public Health Service emphasizes the use of screening tests to determine the presence of abnormal milk in Section 7, item 1r.

Current Concepts of Bovine Mastitis, published by the National Mastitis Council, Inc., states on page 18 that "presence of more than 500,000 leucocytes per ml of mixed herd milk strongly suggests a significant incidence of mastitis in a given herd." Colostrum milk, mastitis, udder injury, stripper milk, and diseased cows are some of the common causes of high leucocyte counts. The committee recognizes that current knowledge cannot be expected to either eradicate or completely control bovine mastitis, but is of the opinion that the standard of not more than 1,500,000 leucocytes per ml on herd milk is attainable by the application of known control procedures which will effectively exclude from supplies that milk produced under conditions which disregard prevention and control procedures.

Although several areas have operational programs, a comprehensive program for the control of abnormal milk will be new in many areas. People must be trained to properly fulfill their roles and budgets must be adjusted. For this reason, the committee feels that a program for the control of abnormal milk should be implemented by successive steps.

Phase I—Effective July 1, 1967

The agreements of the National Conference on Interstate Milk Shipments state in Section II.A.5 that "Effective July 1, 1967, laboratory examinations or screening procedures for the presence of unwholesome, altered mammary secretions, whether of an inflammatory, infectious, physiological or environmental origin, in raw milk for pasteurization, shall be made at the same frequency as specified for bacteriological tests in the milk sanitation standard specified in Section I.A.2." The milk producer shall be notified of all test results. The official indicator test shall be conducted by an approved laboratory utilizing the official indicating tests for the detection of abnormal milk published by the U.S.P.H.S. and subjected to the State Laboratory Certification Program.

Phase II—Effective July 1, 1968

After July 1, 1968, only those interstate milk shippers that are certified to be following an indicating test program shall be listed in the quarterly publication, "Sanitary Compliance and Enforcement Ratings of Interstate Milk Shippers."

It is recommended that the U. S. Public Health Service adopt official laboratory indicating test(s) for the detection of abnormal milk and that such test(s) be published by the U. S. Public Health Service and subjected to the State Laboratory Certification Program.

After this date, when a herd milk sample tested by an approved laboratory indicates the presence of 1,500,000 or more leucocytes per ml, the following procedure shall be followed:

a. A warning letter shall be sent to the producer notifying him of the high leucocyte count. The letter shall also list the principal causes of excess leucocyte counts.

b. Following the second consecutive indicating test indicating a raw milk count of 1,500,000 or more leucocytes per ml, an inspection shall be made by an official sanitarian or a person designated by him.

c. A third herd milk sample shall be taken. If this sample also indicates a leucocyte count of 1,500,000 or more per ml, the milk regulatory authority shall, if he deems it necessary, require the producer to:
   1. Have milking equipment analyzed by a milking equipment serviceman.
   2. Have individual animals examined by a veterinarian. Cows producing abnormal milk shall be milked separately and the milk shall be withheld from the milk supply.

Phase III—Effective July 1, 1970

A penalty clause shall be added for non-compliance with leucocyte standards. Milk supplies having 1,500,000 or more leucocytes per ml on three out of five of the last tests and continued violations of applicable items of sanitation (1r and/or 14r) shall have their permit suspended and/or court action shall be taken in accordance with Section 3 and/or 6 of the Grade "A" Pasteurized Milk Ordinance—1965 Recommendations— of the U. S. Public Health Service: provided that leucocyte counts of 1,500,000 or more per ml shall not have been officially recorded nor penalty applied unless corroborated by the direct microscopic leucocyte count or the equivalent as published by the U.S.P.H.S. and subjected to the State Laboratory Certification Program.

Ad Hoc Committee

The NCIMS chairman shall, with the advise and consent of the Executive Board, appoint an Adhoc Committee on Abnormal Milk Control whose responsibility it shall be to coordinate the efforts of this Conference with those of other official and unofficial groups developing methods and conducting studies on abnormal milk control, which Committee shall report to the 1969 NCIMS with recommendations for action at that time.

SHELBY JOHNSON ELECTED NCIMS CHAIRMAN

Shelby Johnson, Chief of the Food and Drug Program of the Kentucky State Department of Health, was elected chairman of the National Conference on Interstate Milk Shipments at the conclusion of its 1967 meeting April 6 in Miami Beach, Fla. He succeeds Dr. Howard K. Johnston of the Pennsylvania Department of Agriculture, who served since 1965.

Mr. Johnson will preside at the 1969 Conference which will be held at Denver, Colorado, May 25-29. The 1971 Conference will be in Chicago.

Others elected were: J. C. McCaffrey, Chief of the Bureau of Sanitary Bacteriology, Illinois State Department of Health, Chicago, secretary-treasurer, and five members of a Region III executive board. They include Carl Henderson, Chief of Milk and Food Sanitation of the New Mexico State Health Department; U. M. McIntyre, General Manager of Research of The Carnation Company, Van Nuys, Calif; Virgil Simmons, Assistant Chief of the Oregon State Department of Agriculture, Salem, Ore.; Dave Monk, Superintendent of Environmental Health of the Wichita-Sedgwick Health Department, Wichita, Kan.; and Floyd E. Fenton, Chief of Standardization Branch, Dairy Division, U. S. Department of Agriculture, Washington, D. C.

Since the first National Conference on Interstate Milk Shipments was held in 1950 there have been eleven subsequent Conferences to evaluate progress achieved, make constructive improvements, clarify operating procedures, and adopt and promote milk sanitation standards. The Conference operates to help govern the Cooperative State-Public Health Service Program for Certification of Interstate Milk Shippers which is a voluntary program set up to facilitate the interstate shipment of milk and milk products of high sanitary quality.

DFISA CITES SEVERAL MEN

The Annual Dinner-Dance of the Dairy and Food Industries Supply Association March 30 in Clearwater, Fla., was the setting for several awards. Shown at right as he receives a Certificate of Appreciation is Emil Howe, Ladish Co. Tri-Clover Division. Vice President John Weldon, Bessire and Company, Inc. makes the presentation. Also to receive an appreciation citation was Worth Weed, Foote & Jenks Incorporated. In addition, DFISA Past Presidents were honored. Present to receive plaques acknowledging their service in the presidential post were: Donald Colony, Manton-Gaulin Manufacturing Company, Inc. (1958-1960); Paul Girton, Girton Manufacturing Company, Inc. (1962-1964); and Fred King, Wyandotte Chemicals Corporation (1964-1966). The Association met March 29-31 in Clearwater.

NATIONAL LABELING COMMITTEE PREPARES NEW DRAFT OF MODEL REGULATIONS

The National Labeling Committee has completed another phase of the job to draft a Model State Labeling Regulation for Fluid Milk and Fluid Milk Products.

Regulatory and Industry representatives met jointly for the first time March 21 & 22 in Washington, D. C., to review the latest draft of the proposed regulation.

The next step after further review of the amended draft, in this joint effort of dairy industry and regulatory agencies to bring uniformity into labeling, will be to have state regulatory agencies and state dairy associations review and comment on the document.

Members of the Regulatory and Industry Sections of the National Labeling Committee are pictured during their deliberations on a draft of the Model State Labeling Regulations for Fluid Milk and Fluid Milk Products. At the Washington, D. C. meeting were l. to r.: Fred Fornia, Foremost Daries, Inc., San Francisco; Paul Kennedy, International Paper Co., Kalamazoo, Mich.; Clarence Jones, State Health Dept., Little Rock, Ark.; J. Hoffman Erb, The Borden Co., Columbus, Ohio; Dr. Frank Barber, National Dairy Prod. Corp., Glenview, Ill.; Harold J. Barnum, Chief, Milk Sanitation Section, Environmental Health Service, Denver; Shelby Johnson, Dir., Div. of Foods and Drugs, Kentucky Dept. of Health, Frankfort; M. W. Jefferson, Chief, Dairy Prod. Inspection Station, Division of Animal & Dairy Agriculture, Richmond, Va.; Benjamin Habberton, Fistere & Habberton, Washington, D. C.; John Speer, NLC Secretary; J. Lloyd Langdon, Pet Milk Co., Johnson City, Tenn.; D. A. Campbell, Dean Milk Co., Franklin Park, Ill.

MICHIGAN CONDUCTS COURSE ON FOODBORNE DISEASES

Over 50 health officers, sanitarians and engineers employed by local health departments and State agencies in Michigan attended a three-day training course on the "Epidemiology and Control of Foodborne Diseases" on March 14-16, 1967. The course was conducted cooperatively by the Michigan Department of Public Health and the U. S. Public Health Service, National Communicable Disease Center.

A similar course was held in Michigan in March, 1966[1]. Also several health officers attended a similar course at NCDC headquarters at Atlanta, Georgia. Hence, well over 100 public health workers in Michigan have received intensive training in the epidemiology and control of foodborne diseases during the past year.

Each trainee received a notebook containing 40 items of literature dealing either directly or indirectly with foodborne diseases. Among the items included in the notebook was a copy of the Second Edition of the Procedures for the Investigation of Foodborne Disease Outbreaks Recommended by the International Association of Milk, Food and Environmental Sanitarians, Inc.

Also two dozen field kits to be used in the investigation of foodborne disease outbreaks were prepared and presented to local health departments to supplement kits distributed during the 1966 training session. As a result at least one field investigation kit is now available in each local health department in the State of Michigan. Since the environmental health personnel in most local health departments are held responsible for these kits, a check will be made to be sure the kits are in a ready condition whenever periodic environmental health program reviews and evaluations are conducted.

Each field investigation kit contains the following items:

Three 8 oz. liquid specimen bottles.
Four 8 oz. wide mouth specimen bottles.
One butcher knife wrapped, labeled and sterilized.
Two individually wrapped teaspoons, labeled and sterilized.
One dessert spoon, wrapped, labeled and sterilized.
One pair of forceps, wrapped, labeled and sterilized.
Three packages of heavy wrapping paper, wrapped, labeled and sterilized. (This paper can be used for covering and transporting large items or it can be used as a sterile surface on which to prepare specimens.)
Two packages of paper towels, wrapped, labeled and sterilized.
One thermometer, Taylor, scale 0 F to 220 F mercury filled, in nickel plated pocket case.
One thermometer, Taylor, scale 0 F to 220 F maximum registering, mercury filled, in nickel plated pocket case.
One alcohol lamp and 4 oz. bottle of wood alcohol.
One box of facial tissues.
A supply of the necessary forms for recording information obtained at the time of collecting specimens for laboratory examination.
One roll of plastic adhesive tape in dispenser.
One roll of masking tape.
Rubber bands.
One box of gummed labels.
One china marking pencil.
One roll cellulose tape in dispenser.
Four disposable towelettes (moist)

[1]See "Preparing Local Health Departments to Cope With Foodborne Disease Outbreaks", November, 1966, issue. pp. 348-349.

Several local health departments have reported using the kits distributed during the 1966 training program and that the kits have proven to be very convenient.

This training program was considered part of a continuing effort being made to improve the investigation and reporting of foodborne disease outbreaks. It is felt that the excellent training received by the health department personnel combined with the availability of the necessary tools with which to make investigations of foodborne disease outbreaks will result in better and more prompt investigations and improved reporting.

Local arrangements for the course were handled by the Consultation, Evaluation and Training Unit, Section of Environmental Health, Division of Engineering, Michigan Department of Public Health.

ADSA ANNUAL MEETING AT CORNELL

The 62nd annual meeting of the American Dairy Science Association will be at Cornell University, June 25-28. Dairy and animal scientists at the College of Agriculture will be hosts to the 2,000 members expected to register for the meeting. More than 330 research papers will be presented by college and industry researchers in sectional meetings on extension programs, dairy manufacturing, and dairy production.

Registration and an informal reception are scheduled for Sunday afternoon and night, and the first sectional meetings will get underway Monday morning. Awards will be presented at a recognition program Tuesday night, and a general business meeting is scheduled for Wednesday morning. Two symposiums on Wednesday afternoon will round-out the three-day event.

1967 AFDOUS MEETING IN ST. PAUL

The 71st Annual Conference of The Association of Food and Drug Officials of the United States (AFDOUS) will e held June 18-22, 1967, at the St. Paul Hilton, 11 East Kellogg, St. Paul, Minnesota 55101.

The Conference will have under consideration uniform rules and standards affecting foods, drugs, cosmetics and devices which will promote consumer protection.

For detailed information contact Evan Wright, Secretary-Treasurer, State Health Department, Box 1494, State Office Building, Topeka, Kansas 66603.

CHEESE SAUCE TO BE ADDED TO CANNED VEGETABLES

Vegetables canned in cheese sauce may eventually be available on the market, according to University of Wisconsin food scientist K. G. Weckel. Canned vegetables in cheese sauces are now being developed and may compete favorable with frozen vegetables in butter sauce, a product now available to the housewife. Cheese sauce adds flavor to vegetables and gives a rich, yellow color to the product.

Processes for canned vegetables in butter sauce were developed by University food scientists some time ago. These products are now produced commercially by some food processors. But Weckel says cheese sauce is more difficult to make and is more costly than butter sauce.

Vegetables in butter or canned cheese sauce will be convenient for the housewife since the preparation of sauces in the kitchen is eliminated.

1967-68 OFFICERS OF THE VIRGINIA DAIRY PRODUCTS ASSOCIATION

1967-68 Officers of the Virginia Dairy Products Association (Left to Right) Treasurer, C. L. Fleshman, Lynchburg-Westover Dairies, Inc.; First Vice-President, J. W. Nussey, Jr.; Greenleaf Dairy, Inc.; President, H. A. Habeck, Pet Milk Company; and Second Vice-President, F. J. Saunders, Jr., Lynchburg-Westover Dairies, Inc.

KENDALL ANNOUNCES NEW WESTERN MANAGER

Joseph W. Oakson has been appointed Western Regional Manager of Kendall's Fiber Products Division, according to A. A. Coughlin, Field Sales Manager for the division. Mr. Oakson will be responsible for guiding the activities of Kendall's Western representatives and will also supervise the sale of Kendall's complete line of milk filters for all types of milk filtration, and animal health products.

Mr. Oakson is a graduate of the University of Notre Dame where he majored in Business Administration, and has a good background of selling experience, Mr. Coughlin said.

INFORMATION FROM INDUSTRY

Editorial Note: Following are items of information on products, equipment, process and literature based on current news releases from industry. When writing for detailed information, mention the Journal.

WALKER FILTER-FLO PROTECTION FOR TANK MANHOLE OPENINGS

A possible contamination source in the handling of milk can now be controlled with the use of the newly developed Walker Filter-Flo. This sanitary all-stainless device fits over the open manhole of all model farm bulk pickup tanks as well as over-the-road transports. During the unloading of tankers it has always been necessary to open the top manhole cover to permit air to replace the product as it is pumped out of the tank. With this manhole open, air borne dust particles as well as insects may be drawn into the tank. Use of the Walker Filter-Flo, filters the air through a 9 1/2" filter disc thus eliminating this undesirable contamination possibility, according to the manufacturer.

A single sheet bulletin on the Walker Filter-Flo, giving complete specifications is available from the Walker Stainless Equipment Co. Inc., New Lisbon, Wis. 53950.

PENNSALT INTRODUCES RAPID CLEANER

G.A.C. No. 2 Cleaner, a new, economical, granular acid cleaner effective in cold as well as hot water, is now being introduced to the dairy and food industries by Pennsalt Chemicals Corp., Philadelphia. Its prime advantages: it rapidly penetrates tough soils, quickly removes deposits that many other cleaners fail to remove.

The new cleaner combines granular acid, phosphate and wetting agents that work quickly on deposits of waterstone, milkstone, casein and starch. It brightens stainless steel and copper surfaces and removes dulling metal oxide films.

G.A.C. No. 2 rinses freely with water and does not etch or corrode stainless steel, copper, brass or monel when used as directed. The cleaner dissolves quickly in either hot or cold water and can be applied by brush, spray, soak or circulation methods.

G.A.C. No. 2 is available in 100-and 400-pound drums. For additional information write to Pennsalt Chemicals Corp., Dairy and Food Dept., 3 Penn Center, Philadelphia, Pa. 19102.

NEW STATIONARY PACKER COMPRESSES WASTE MATERIAL INTO HAULAWAY CONTAINERS

A new hydraulic stationary packer, which can reduce waste disposal haulaway costs as much as 90%, is announced by Maren Engineering Corporation, 16246 School Street, South Holland, Illinois 60473. The Maren Stationary Packer can compress any waste material—cans, bottles, metal turnings and chips, wood, paper, etc.—into any haulaway container. Reduction in volume of up to 10 to 1 is possible, depending on the type of waste. Haulaway costs are therefore reduced proportionally.

This extremely sturdy packer features an oversize hopper of 2 cubic yards capacity for the accommodation of large, bulky items, as well as for fewer compression cycles per fully compacted container. Other important features are: automatic shut-off at the completion of each compression cycle; buzzer signal when container is fully compacted; automatic ram return if waste item, such as an overlength I-beam, extends above container opening; and easy attachment of container to packer by means of heavy duty chains with turn-buckle tightening adjustments.

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Opportunity in South Dakota for Sanitarian to direct State Department of Health restaurant and lodging inspection and licensing program. Position requirements include Bachelor's Degree, a Master's Degree in Public Health or in the principal field of under-graduate study, 10 years experience in field of environmental health or related activities, registration as professional sanitarian in State of South Dakota. Salary $925—$1050 per month. Interested persons should contact Charles Carl, Director, Division of Sanitary Engineering, State Department of Health, Pierre, S. Dak. 57501.

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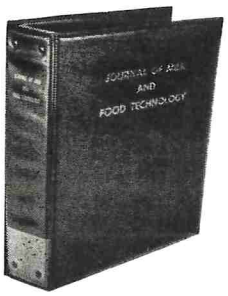

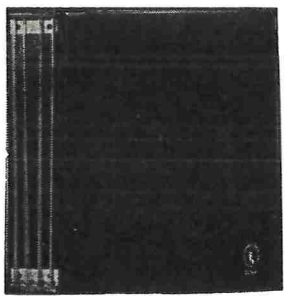

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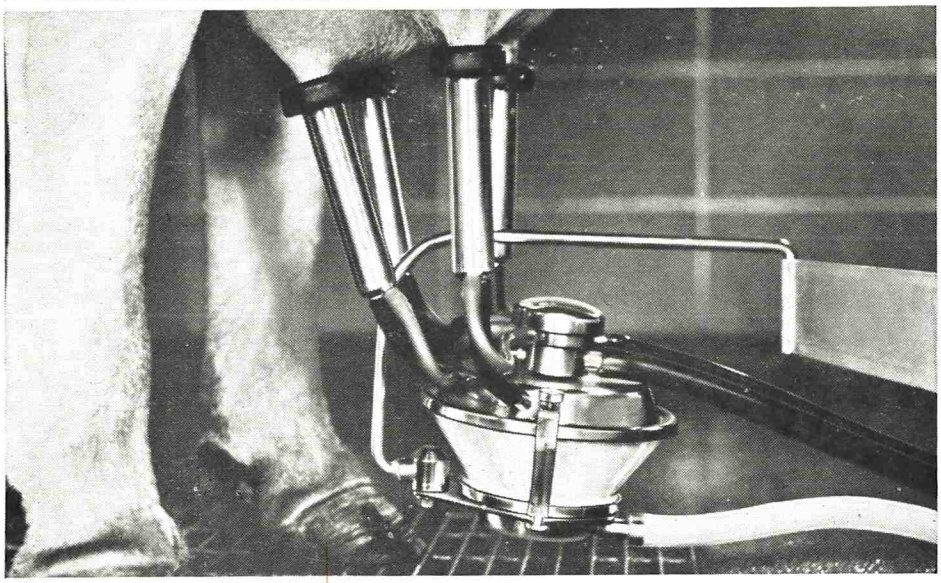

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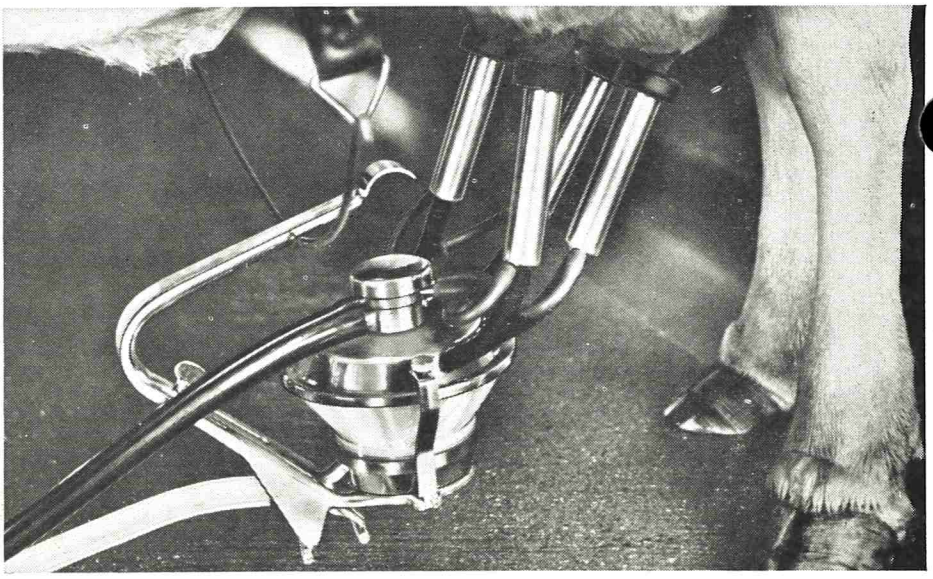

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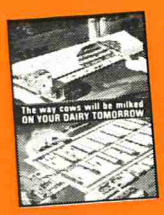

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