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Vol. 24

No. 9

*Journal of*

# MILK and FOOD TECHNOLOGY

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*Official Publication*

International Association of Milk and Food Sanitarians, Inc.



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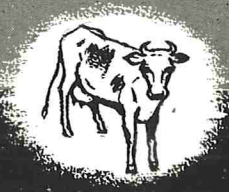
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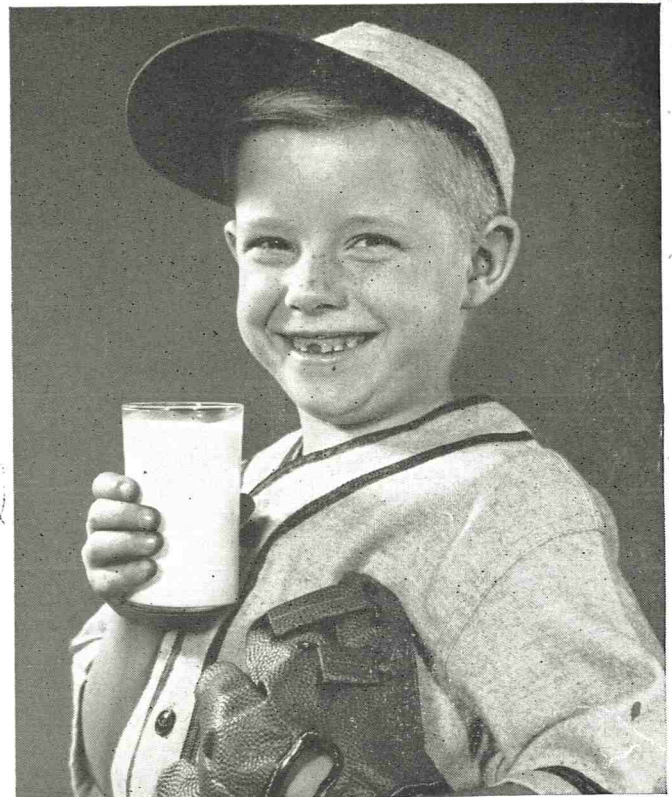
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# EDITORIAL

## Perspectives In Hospital Sanitation

During the past decade, the problems of hospital acquired infections, and particularly the appearance in hospitals of "epidemic" strains of staphylococci have generated a great deal of public interest and have attracted a great deal of professional attention. These phenomena have stimulated a rash of research activities and scientific papers. A series of accusations and counteraccusations have been made attempting to fix blame. Articles have appeared in the lay press, a multiplicity of conferences, conventions, and seminars have been held and genuine concern has been expressed by public health and medical authorities. In truth, there are so many complexities associated with the problem of hospital infections, that there is enough material to keep the publicity pot boiling for some time to come.

Workers, particularly, in the sanitary sciences, have become embroiled in this controversy. There appears to be some relationship, still undefined, pointing up environmental sanitation, or more precisely, lack of environmental sanitation to nosocomial infection. Consequently, with more good intention than forethought, the call has gone out to sanitarians and their organizations to develop crash programs in hospital sanitation, to start training "hospital sanitarians" to become experts and to make recommendations in a field which is more or less foreign to most of us. It is no doubt true that the skills and talents of trained, experienced and mature *environmental hygienist* will be of value to a well run hospital. Nonetheless, there are several precautions which must be observed in this enterprise, and some perspective of the problem should be attained before crashing headlong into this delicate and critical area.

First of all, it should be recognized that despite all of the research carried out, the epidemiological aspects of hospital acquired infections are not entirely an open book. The relationship between insanitary conditions in the hospital and post-operative wound infection is not as easy to establish as the classical relationship, familiar to all, between dirty utensils and milk quality. It is too easy to surmise, too tempting to jump from one logical hypothesis to an all encompassing conclusion. Most workers in hospitals accede to environmental hygiene for esthetic purposes alone as a worthwhile goal. Similarly, most medical and para-medical persons *feel* that the danger of infection is diminished when germicides are liberally applied to floors, walls, doorknobs and shoes. Logically, one can make an excellent argument for environmental sanitation, but actual critical data are sorely lacking. If crash programs are needed one of the most fruitful programs would be a careful epidemiological study of infections in "clean" and "unclean" hospitals. Until these data are available, much of our enthusiasm for the role of the sanitarian in the hospital must be tempered.

Secondly, those who intend to work in hospital sanitation must learn that hospitals, like most human institutions, be they colleges, governmental agencies, or churches, cling jealously to traditions. The best sanitarian in the state, armed with the best data available and with the tongue of Demosthenes himself, will still find it frustrating and difficult to modify traditional procedures, to change deeply ingrained habits. Only when it is recognized that hospitals are staffed with people, and that people are amenable to training and education, albeit slowly and gradually; only when sanitarians decide to help by education rather than by directives, will their efforts attain some chance of success. With this in mind, the sanitarian must realize that the hospital is a unique environment, organized into a unique hierarchy. The hospital sanitarian who attempts to take control, to issue orders, to organize sanitary practices and to inspect the premises as he does the local creamery, should prepare for the rudest of awakenings. In the hospital, the doctor is King, the nurse is Queen and the Administrator is Prince Regent. As potential patients in these institutions, we would have it no other way. When we put our very lives into a man's hands, or the lives of our children, we express the ultimate of faith in his ability and judgment. If we saddle the doctor and nurse with the responsibility for such ancillary (though to us - important) activities as sanitary supervision, we distract him from his basic job of saving lives, alleviating pain, correcting the malformation. On the other hand, if we attempt to regulate his environment and his activity without his cooperation and acquiescence, we override the bounds of courtesy and hospital tradition and we will soon lose whatever effectiveness we hoped to exercise. The best approach a sanitarian can exhibit is a humble one, saying in effect, *I am a student of the sanitary sciences, I have certain technical skills and talents and background that may be useful in the hospital environment. These are available to the doctor and the hospital to be used to their best advantage. I hope I can be of service.* This may not be a dramatic approach, but if sanitarians are truly interested in fulfilling their role to resolve hospital infection problems, it will be the most effective approach.

To be effective, the environmental hygienist in the hospital must be equipped with a great deal of basic information about environmental health that is often not part of his professional undergraduate training. In addition to being an expert in the classic realms of sanitation, the sanitarian must be cognizant of the allied disciplines which regulate the patient's environment. Thus, the sanitarian must be familiar with the principles and applications of ventilation engineering. He must be proficient in medical and environmental microbiology. He must be acquainted with the field of health physics and radiological hazards. He must appreciate the intricacies of hospital administration. The hospital is a honeycomb of experts. Specialists in surgery, medicine, urology, orthopedics, gynecology, nursing arts, administration, dietetics, engineering and housekeeping will be his co-workers. The sanitarian must be nothing less than a professional sanitarian. He can depend not only on past training and experience, but he *must keep abreast of the literature*, critically appraising experimental results of others, and he must maintain an open and scientific perspective of his own work. He must recognize the limitations of his techniques and constantly strive to expand his basic knowledge about his environment.

In retrospect, it appears obvious that the professional sanitarian can make a significant contribution to the hospital world. The medical and para-medical staff of our country's hospitals need his talents and experience, and the hospital environment is certainly a challenge that merits his attention and interest. It appears equally obvious that the sanitarian, in order to meet this challenge, must have a broad background in the basic public health sciences and special training in hospital sanitation. The time is ripe for an honest, well thought out approach to the role of the sanitarian in the hospital.

V. W. GREENE

University of Minnesota Health Service,  
Minneapolis, Minn.

deliberations were representatives of the pest control industry, fan manufacturers and distributors, market designers and builders, food industry representatives, and construction and equipment specialists of the school board.

The group concurred in the Department's conclusion that ordinary 4-bladed paddle fans or other devices that do not produce a "blast of air" are not normally effective as fly exclusion devices. They recommended that the fly exclusion begin with external fly control and include other steps, as follows:

1. Community fly control.
2. Eliminate fly-attracting conditions near entrances to food establishments.
3. Apply exterminating procedures near or on entrance doors and doorways.
4. Investigate effectiveness of fly-repelling materials and devices.
5. Eliminate requiring fans where they are not of real value.
6. Eliminate such means of fly ingress as damaged screens, unscreened air vents, etc.
7. Apply approved fly extermination procedures inside the establishment.

#### *Fan Standards*

To interpret the Building Code section which

authorizes fans in lieu of screens "when approved by the Health Officer" the following policy was adopted:

"Where fans are required they shall be installed inside the building with the air flow downward and outward to produce a minimum velocity of 750 ft/min over the entire opening, down to 3 ft above the floor."

#### *Exceptions*

1. Fans shall not be required under the following conditions:

- (a) Doors are self-closing and will normally be kept closed at all times except to allow passage.
- (b) Doorways to establishments where there is no unpackaged, exposed food except fresh fruits and vegetables.
- (c) Doorways or large openings to loading areas not normally used for storing or preparing unpackaged foods.

2. Other fly exclusion devices or alternate fan locations should be submitted to the Health Department for approval before installation.

Fans will not be accepted in lieu of screens on side or rear doors to food-processing rooms.

## PROBLEMS OF WAREHOUSING AND STORAGE OF FROZEN FOODS<sup>1</sup>

HUBERT M. ARONS

*Hartford Freezer Corporation  
Hartford, Connecticut*

The proper storage and handling of frozen foods in public refrigerated warehouses require a combination of ingredients all working together. Among these are good physical facilities, efficient handling equipment, well-trained employees, well-organized procedures, the knowledge and experience of the warehouseman plus an acute sense of service and responsibility.

One of the peculiarities of the public refrigerated warehousing industry is that it is very difficult to point to any one aspect of it and say that this is "average" or "typical" of the entire industry. Certainly this is true of the physical facilities such as the refrigerated warehouses themselves and the equipment in them. There has, of course, been a strong

trend toward the single story warehouse since the last war, but there are still some strong advocates of the multi-story plant in certain situations. Some plants are sort of a combination of the two, making use of balconies or basements. One new plant I know of has a split level design and you can even find a modern river front refrigerated warehouse built on stilts to place it safely above possible flood waters. Generally, design is largely dictated by the service requirements of the customers the warehouse serves.

A refrigerated warehouse may be located in an area of production where it serves growers, processors, and packers and handles large unit quantities in and out. It may be located in a large urban area and performs primarily a distribution function. Another warehouse may be so located that its business is mostly storage of goods in transit. Still another warehouse may be a combination of those types.

<sup>1</sup>Presented at the meeting of the Connecticut Association of Dairy and Food Sanitarians, January 13, 1961 at Cheshire, Connecticut.



Again, the type of material handling equipment used varies widely from four-wheel hand carts to complicated and expensive fork lift trucks. The type of equipment is often determined by the type of operation to be conducted and the warehouse then is designed around these considerations to obtain the most efficient combination. In the case of older plants, handling equipment often must be adapted to existing buildings. It becomes very clear that there are great variations in types of refrigerated warehouse plants and equipment. Consequently, operating methods and procedures often vary considerably. Thus, what may be a sound, efficient procedure for one warehouse may not be so for another. In spite of these differences, however, there are certain features common to nearly all good refrigerated warehouse operations. Included among these are such things as:

1. Location convenient for customer operations and including easy access to highways and rail sidings.
2. Properly insulated and well maintained buildings and premises.
3. Adequate refrigeration capacity to meet maximum needs under the most severe conditions likely to be encountered.
4. Adequate dock area to minimize delays during in and out movements.
5. Proper service areas such as break-up space, supply storage areas, workshop space, etc.
6. Office staff and facilities capable of keeping up with day to day paperwork — issuance of warehouse receipts, mailing of delivery notices, billing, etc.
7. Handling procedures and equipment adapted to the job for fast, efficient customer service.
8. Observance of proper sanitation and safety measures.

9. Maintenance of proper temperature, humidity and storage conditions for commodities handled.

10. A working knowledge of customer problems and products and a willingness to work with customers in helping solve their problems.

11. Keeping of complete records with respect to goods received and shipped and their condition.

In carrying out these features and in striving to constantly improve their operations, public refrigerated warehousemen have, over a long period of time, developed certain practices and procedures which practical experience has proven to be workable while at the same time providing the necessary protection for frozen foods and other perishable commodities. These procedures have come to be accepted by both refrigerated warehousemen and their customers as good commercial practices, although the details of their execution will vary from plant to plant for the reasons pointed out earlier.

In addition to all of the foregoing, well-trained employees who know how to carry out carefully organized procedures are a must in the well-operated refrigerated warehouse.

Last, and yet one of the most important features of all, is that the public refrigerated warehouseman must have that sense of responsibility which assures that he will give to the products in his custody the same degree of care as if the goods were his own. This is not only a legal requirement but is the practice carefully followed by every good warehouse operator.

The very best protection any frozen food storer can obtain for his product is reliance on the experience, integrity and reputation of the public refrigerated warehouseman to whom he entrusts his products. The old admonition to choose your warehouse as you do your bank is still the best advice.

## PRINCIPLES GOVERNING SANITARY MILK REGULATIONS' RECOMMENDED BY THE ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS

RUSSELL E. TEAGUE

*Kentucky State Department of Health, Frankfort*

I am very pleased to speak to you today on certain principles which the Association of State and Territorial Health Officers have recommended with respect to the sanitary control of milk-moving, both intrastate and interstate. The Association of State and Territorial Health Officers is an organization of the Commissioners of Health of the fifty states. I am Chairman of the Environmental Sanitation Committee of the Association, and also Chairman of the Special Subcommittee on Milk Sanitation of the Committee on Environmental Sanitation. This special Subcommittee was established in 1957 to (a) study problems relating to the movement of milk of high sanitary quality in interstate commerce; (b) review the actions being taken by some official agencies to impede or restrict both the intrastate and interstate movement of milk of high sanitary quality through the use of health regulations as economic trade barriers; and (c) study the various bills introduced in the Congress for the sanitary control of milk shipped interstate to determine the need, if any, for Federal legislation on this subject.

The Association of State and Territorial Health Officers during the entire period of its existence has been interested in milk. This interest stems from the nutritional importance of milk to the proper growth and development of our children and to the maintenance of health in all age groups, and from the role that milk has played in the spread of disease. As has been pointed out by many health authorities, it is certainly paradoxical that a food which is so important to the maintenance of good health should have such a great potential for the spread of disease.

Today, many of us are prone to forget the milkborne disease outbreaks, and the high infant mortality resulting from the consumption of contaminated milk, which constituted a major problem for public health authorities during the first quarter of this century. In the literature for the period 1900 to 1925 there are recorded 891 milkborne disease outbreaks involving 42,327 cases and 410 deaths. Since 1925, the U. S. Public Health Service has recorded an additional 1,026 milkborne disease outbreaks involving 40,973 cases and 65 deaths.

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<sup>1</sup>Presented at Fourteenth Annual Meeting of the Dairy Products Improvement Institute, Inc., Hotel Governor Clinton, New York City, February 16, 1961.

There is no question that the incidence of milkborne disease in the United States has been sharply reduced in recent years. This is an achievement to which public health workers can point with pride since it was brought about by the unremitting efforts of health agencies, at times often in the face of determined resistance by certain segments of the dairy industry and by those agencies which supported their interest. However, the occasional milkborne disease outbreaks which still occur—such as the 1955 para-typhoid fever outbreak in Lancaster, Pennsylvania — serve to remind us that it is a measure of control through constant vigilance rather than elimination of disease which has been achieved. If this were not so, then there would be no need whatsoever for the maintenance of expensive state and local programs for the sanitary control of milk which are designed solely to protect the public against disease. Such problems, and the sanitary regulations governing their conduct, were not designed as economic controls. I wish to make this distinction since it relates directly to one of the principles recommended by the Association of State and Territorial Health Officers which I will discuss later.

I am sure you are all aware that one of the primary responsibilities of public health agencies — local, state and federal — is the prevention of disease and the protection of the public against hazardous and harmful substances. Whenever outbreaks of disease occur, public health agencies become responsible for locating the failures of preventive measures, and for halting the spread and recurrence of such outbreaks. Because the public health agency has the primary legal and moral responsibility for preventing disease, the State and Territorial Health Officers, more than fifty years ago, initiated preventive measures to deal with the problems of milkborne disease outbreaks and of high infant mortality resulting from the consumption of contaminated milk. After thorough review of the evidence presented in such classics as Rosenau's studies of milk and its relation to disease, the State and Territorial Health Officers took the firm position that effective control of milkborne disease requires the application by health departments of sanitation measures throughout the production, handling, pasteurization and distribution of milk. This position has been borne out by the intimate

experiences of health officers with milkborne disease outbreaks which occurred in communities with inadequate or poorly conducted programs, or with no milk sanitation program at all.

During the past thirty-five years the State and Territorial Health Officers have given active attention to various problems related to the sanitary control of milk. They stimulated the establishment of effective milk sanitation programs at state and local levels throughout the nation. They urged the U. S. Public Health Service to develop a model milk ordinance and code for state and local adoption and, in the interest of uniformity, the Association recommended that all states and municipalities throughout the United States adopt this model standard. Also, in cognizance of the expensive and wasteful practice of duplicate inspections of the same milk supply, the Association has strongly recommended the consummation of reciprocal inspection agreements between cities and between states.

We all know that as our population has expanded, it has been necessary for many communities to import milk from distant sources to meet consumer demand. This problem first became critical from the public health point of view during World War II when large volumes of milk of poor or questionable sanitary quality were shipped interstate. In 1944, the Association recommended to the Surgeon General of the U. S. Public Health Service that he develop with the states a voluntary certification system for milk shipped interstate, with certification to be based on compliance with the sanitary provisions of the U. S. Public Health Service Model Milk Ordinance and Code. Because the problem did not diminish following World War II, this request was repeated and led the Surgeon General in 1950 to call the First National Conference on Interstate Milk Shipments. As a result of this National Conference, the voluntary State-USPHS Program for certification of interstate milk shippers was established in 1951. This cooperative program, which provides reliable information on the sanitary quality of milk offered for interstate shipment, has had the full backing of our Association.

As the volume of milk of high sanitary quality moving in both intrastate and interstate commerce increased, it became apparent that a number of jurisdictions were using their health regulations in such a way as to impede or obstruct the movement of such milk. In many instances the requirement or practice used to impede interstate movement is of little or no public health significance. Because of this practice a number of bills were introduced in the Congress during the period 1954-1958 to establish Federal control over milk shipped interstate. Certain of these

bills proposed a degree of federal sanitary control so far reaching as to pre-empt the rights of states and municipalities to exercise sanitary control over their own intrastate supplies. Some of these bills would have also removed the sanitary control of milk from health agencies. The Association of State and Territorial Health Officers expressed its opposition to these early bills, and on Bill H.R. 7794, which was titled the "National Milk Sanitation Act" (1957), the Association forwarded a letter of opposition to the Congressional Committee holding hearings on this Bill.

The Association's opposition to H.R. 7794 was based primarily on those sections of the Bill which would provide for direct Federal control and supervision, and the extension of Federal sanitary control to all milk supplies "Affecting Interstate Commerce." It was felt by the Association that direct Federal supervision would unnecessarily superimpose another layer of control on existing state and local systems, and that the "Affects Interstate Commerce" provisions would result in the Federal Government's pre-empting the right of States and their political subdivisions to control their intrastate supplies. At the same time, the Association recognized the authority of the Congress to regulate all aspects of interstate commerce and agreed with the authors of the bills that health regulations in some instances were being deliberately used as trade barriers. Thus, the Association found itself in a position of being in opposition to a bill whose objectives it favored in general. Therefore, it was decided by the Association that it should make a thorough study of the need for Federal legislation in the field of sanitary control of milk shipped interstate. It was felt that such a study would enable the Association to advise the Congress and the Secretary of Health, Education, and Welfare, as to an appropriate type of legislation if it was determined that Federal legislation was required. In other words, it was felt that the Association should take a positive rather than a negative position on a matter of such public health importance.

The Special Subcommittee on Milk Sanitation Legislation, to which I referred in my opening remarks, was established in 1958 to study the matter of Federal milk sanitation and related problems. In this study thorough consideration was given to the sanitary control of milk, including modern day means of safely transporting milk of high sanitary quality. The question of duplication of inspection services, and the practice of using health regulations as economic barriers to the free movement of milk both in intrastate and interstate commerce, were also thoroughly considered. In addition, the study included an evaluation of the progress achieved through

the voluntary State-USPHS Program for certification of interstate milk shippers, and an evaluation of the merits of the various bills previously introduced in the Congress for the Federal sanitary regulation of fluid milk and fluid milk products shipped interstate.

On the question of the use of health regulations as economic trade barriers, it was found that there was considerable evidence that milk sanitation regulations of States and municipalities are frequently used to obstruct the movement of high quality safe milk both in intrastate and interstate commerce, or to limit acceptance of such milk to periods of seasonal shortage. Among the techniques used for this purpose, which appear to have little or no public health significance, were the following: (a) the charging of high inspection fees which distant shippers feel they do not wish to pay considering the volume of milk likely to be sold; (b) inclusion of certain detailed specifications in regulations which have little or no effect on the sanitary quality of milk, and which are not required by the producing State or outside municipality; (c) refusal to accept milk from an out-of-State source, or even an intrastate source, because the producing jurisdiction did not have an identical bacterial standard in its regulations, regardless of whether or not the milk *itself* met the bacterial standards required by the receiving jurisdiction; (d) refusal, or unwillingness, to inspect dairy farms or milk plants located beyond an arbitrarily fixed distance; and (e) more stringent application of sanitary standards to "outside" sources than are enforced within the receiving jurisdiction.

The Association recognized that States and their political subdivisions have the right to exclude milk of questionable quality, but unanimously agreed on the basic principle that health regulations should not be used to restrict either the intrastate or interstate movement of milk of high sanitary quality. It was strongly felt that milk sanitation regulations were for the express purpose of protecting the public health, and should not be used as a means of regulating the economic aspects of milk marketing nor should they be subject to economic pressures. It was further felt that health agencies at all levels of government have a responsibility to avoid taking actions which cannot be sustained on public health grounds, and which have an adverse economic effect on the dairy industry as a whole.

The changes which have taken place in the dairy industry during the past twenty-five years, and which have resulted in greatly increased volumes of safe, high quality milk being offered for sale in interstate commerce, were reviewed in order to determine whether or not the present system of State and local supervision could be utilized for the control of

interstate milk shipments without creating an undue burden on interstate commerce. It was the consensus that the problems of the industry dairy can no longer be considered solely on a local milkshed basis, that the increased interstate movement of milk has complicated its control by State and local agencies, and that uniform sanitary standards and practices are necessary to insure the quality of milk shipped interstate and to eliminate the unjustified use of health regulations as trade barriers. It was also the consensus that developments in sanitation, farm refrigeration, processing techniques, and refrigerated transport now make possible the safe movement of high quality milk to any point in the nation. While the voluntary State-USPHS Program for the certification of interstate milk shippers, which as I mentioned was established at the request of our Association, has greatly facilitated interstate milk shipments, it has not been able to break down deliberate barriers toward which most of the Federal legislative proposals have been directed. For these reasons, it was agreed by our Association that some form of Federal legislation was needed.

The Association considered specific forms of Federal legislation that might be appropriate and which would overcome its objections to previous bills. An approach was desired which would utilize—not destroy—the existing State and municipal systems of sanitary control which have proven so effective in reducing the incidence of milkborne disease. Consideration was first given to an approach which would simply place a legislative base under the present voluntary State-USPHS milk certification program. It was recognized, however, that such an approach would not solve in its entirety the trade barrier problem, and thus would not be acceptable to the proponents of proposed Federal legislation. However, in view of the fact that the voluntary certification program, which utilizes State and local inspection services, has proven effective and practical in operation, the Association believed that the essential elements of this program should be incorporated into any Federal milk sanitation legislation enacted by the Congress for sanitary control of interstate milk supplies. It was the consensus that if these elements were coupled with a provision prohibiting a State or municipality from excluding milk from out-of-State sources, which complied with basic public health criteria for certification, such an approach would provide an effective and practical means of assuring high quality products for consumers in milk-importing areas and eliminating the use of health regulations as trade barriers, without abridging the rights of state and local agencies to control the sanitary quality of their intrastate sup-

plies. In fact, the Association firmly believes that this type of approach will strengthen the programs of State milk sanitation agencies. Therefore, the following recommendation was passed on October 24, 1958, at the Annual Meeting of the Association and published as an official statement and recommendation of the Association under the title, "Need and Recommended Principles for Federal Milk Sanitation Legislation."

#### RECOMMENDATIONS AND PRINCIPLES

That the Association of State and Territorial Health Officers recommend to the Congress the adoption of Federal legislation pertaining to interstate milk shipments, incorporating the following principles:

A. Declare as Public Policy that the sanitary control of fluid milk and fluid milk products is necessary to protect the public health, and that the exercise of such sanitary control is primarily the responsibility of State and Local Health Departments, except that no State or Local Government has the right to obstruct the free movement in interstate commerce of fluid milk products of high sanitary quality by the use of unnecessary sanitary requirements or other health regulations;

B. Establish uniform sanitation standards and practices consistent with those contained in the unbridged form (Part III and Part IV) of the *Milk Ordinance and Code—1953 Recommendations of the Public Health Service*, for fluid milk and fluid milk products shipped in interstate commerce;

C. Authorize the Surgeon General of the Public Health Service to conduct, in cooperation with State milk sanitation authorities, a program for certification of interstate milk shippers, in which certification would be based on compliance ratings made by State Milk Sanitation Rating Officials in accordance with a rating method, criteria and procedures to be promulgated by the Surgeon General of the Public Health Service;

D. Authorize the Surgeon General to certify only those interstate sources of fluid milk and fluid milk products which are awarded a compliance rating of 90% or more by the State milk sanitation authority;

E. Authorize the Surgeon General:

- (1) To make such ratings, inspections, laboratory examinations, studies and investigations as he may deem necessary to satisfy himself as to the validity of the sanitation compliance ratings submitted by the State milk sanitation authorities for certification.
- (2) To provide for revocation or suspension of certifications for cause, and
- (3) To disseminate information on certified sources;

F. Prohibit the use of State and local milk regulations as trade barriers to the interstate shipment of fluid milk and fluid milk products of high sanitary quality by providing that no State, Municipal, or County authority or official may exclude, on public health grounds, or because of varying sanitation requirements, any fluid milk and fluid milk products shipped in interstate commerce from sources certified by the Surgeon General as having a sanitation compliance rating of 90% or more, if, upon receipt, such fluid milk and fluid milk products comply with the bacterial standards, temperature requirements, composition standards, and other criteria specified in the prescribed sanitation standards and practices;

G. Authorize the Surgeon General to amend the prescribed sanitation standards and practices if, after consultation with State and Territorial Health Authorities, other State milk control agencies and the dairy industry, he finds amendments are necessary to either protect the public health or to eliminate obsolescent sanitation standards and practices;

H. Authorize the Surgeon General:

- (1) To conduct research and investigations, and to support and aid in the conduct by State agencies, other public or private organizations and institutions of research and investigations, concerned with the sanitary quality of fluid milk and fluid milk products, and
- (2) To make the results of such research studies and investigations available to State and Local agencies, public or private organizations and institutions, and the milk industry;

I. Authorize the Surgeon General to:

- (1) Train State and Local personnel in milk sanitation methods and procedures,
- (2) Provide technical assistance to State and Local milk sanitation authorities on specific problems.
- (3) Conduct field studies and demonstrations, and
- (4) Cooperate with State and Local Authorities, public and private institutions, and industry, in the development of improved programs for control of the sanitary quality of milk; and

J. Exclude from provisions of the legislation, manufactured dairy products such as butter, condensed milk and evaporated milk unless used in the preparation of fluid milk or fluid milk products, sterilized milk or milk products not requiring refrigeration, all types of cheese other than cottage cheese, and nonfat dry milk, dry whole milk and part fat dry milk un-

less used in the preparation of fluid milk or fluid milk products; and further

K. Authorize necessary appropriations for the Surgeon General to carry out his responsibilities under the legislation.

The official statement of the Association of State and Territorial Health Officers containing these recommendations and principles was submitted to the appropriate committees of the Congress, to individual members of the Congress who had previously introduced bills for sanitary control of interstate milk, to the Secretary of Health, Education and Welfare, and to other interested parties. As a result H.R. 3840, S. 988 and nineteen identical bills, all of which were titled "National Milk Sanitation Act," were introduced in the first session of the 86th Congress (1959). These bills embodied all of the principles and recommendations contained in our Association's official report on the need and principles of Federal milk sanitation legislation. I should like to emphasize that

although these new bills carried the same title as those previously opposed by the Association i.e., "National Milk Sanitation Act," they contained a completely different approach to deal with the problem.

In 1960 hearings were held on H.R. 3840 and S. 988 by the appropriate committees of the Congress. Our Association testified at both hearings in favor of this form of Federal legislation. Neither of these bills was voted upon by the 86th Congress prior to the end of the second session and thus these bills "died." The Association, however, is pleased to not that similar bills, embodying its recommendations and principles, have already been introduced in this new session of the Congress. (H.R. 50, 51, 52, 53, 54, 55, 56, 57, 58, 59 and 60, H.R. 1825 and S. 212). When hearings are held on these bills our Association proposes to testify in favor of their enactment.

I appreciate this opportunity to present to you the views of our Association on this important matter.

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## THE MEANING AND SIGNIFICANCE OF THE FREEZING POINT OF MILK<sup>1</sup>

W. F. SHIPE

*Department of Dairy and Food Science,  
Cornell University, Ithaca, New York*

The freezing point of milk is an indirect measure of the concentration of water soluble substances in the aqueous phase. It is independent of the concentration of water insoluble substances. By diluting milk with water the concentration of water soluble substances is reduced and consequently the freezing point is changed. The freezing point of water is higher than milk and therefore, the addition of water to milk raises the freezing point. The magnitude of the rise is approximately proportional to the amount of added water. This general relationship has been known for over sixty years, yet there is still some disagreement about the interpretation of freezing point data.

The disagreement centers around the question - What is the freezing point of undiluted milk? This question raises another question - Does all undiluted milk have the same freezing point? Obviously, we can not answer either of these questions unless we have an accurate method of determining the freezing point.

Before 1921, a number of cryoscopic methods and

techniques were used. Since there is very little information concerning the accuracy of these earlier methods they will not be included in this discussion. In 1921 Hortvet (7) described a new cryoscopic method which he had developed because he felt that the methods used prior to that date lacked standardization. Hortvet pointed out that freezing point determinations are empirical, i.e., the results are dependent on the technique used. For this reason he gave a very detailed description of his apparatus and procedure. On the basis of his ability to obtain reproducible results in his own laboratory, Hortvet believed that his method was sufficiently accurate. Collaborative studies conducted by Robertson in 1956 (10) and Shipe in 1958 (12) and 1960 (13) indicated that in most cases analysts could reproduce their own observations. However, there were significant differences between the freezing points reported by the different laboratories for identical milk samples. These observations emphasize the empirical nature of the Hortvet method. By using a consistent procedure, an analyst may be able to reproduce his own results, but this does not ensure that he will get the same results as other analysts. To obtain comparable results, all analysts must use comparable procedures. The lack of agreement between analysts

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<sup>1</sup>Presented at Fourteenth Annual Meeting of the Dairy Products Improvement Institute, Inc., Hotel Governor Clinton, New York City, February 16, 1961.

could have been due to failure to follow Hortvet's directions or perhaps Hortvet's directions were not explicit enough.

Although the Hortvet method has been universally accepted as the standard freezing point method, numerous modifications of the Hortvet apparatus and procedure have been suggested. These modifications have been designed to either simplify the procedure or to improve the accuracy or both. Attempts to simplify the procedure have met with considerable success, however, attempts to improve the accuracy have not been as successful. Although quick, easy methods are desirable they are not necessarily more accurate.

In recent years cryoscopes have been developed which use thermistors in the place of mercury in glass thermometers. Freezing points can be determined much more easily and rapidly with these new cryoscopes than with the Hortvet samples. The results of two collaborative studies conducted in 1958 (12) and 1960 (13) indicate that these new cryoscopes give results which are comparable to the Hortvet results. These studies also revealed that the magnitude of variations between samples and analysts were about the same for both types of cryoscope. The major limitation regardless of the type of cryoscope, is undoubtedly the analytical procedure. This in turn is dependent on the training and conscientiousness of the analyst.

In light of all of this, what can we say about the accuracy of cryoscopic methods? First, there is no doubt that an analyst *can* obtain reproducible results. Secondly, good agreement *can* be obtained between different analysts provided they all follow the same procedure. Unfortunately, as is true with any analytical method, the fact that accurate results *can* be obtained, does not prove that all results will be accurate.

Although the limitation of cryoscopic methods must be considered in interpreting freezing point data, it is possible to draw certain conclusions. The published results clearly prove that the freezing point of milk does vary, although within relatively narrow limits. This author has occasionally heard the statement that the freezing point of normal milk is a constant. Of course, anyone, who is familiar with the literature on freezing points, knows that such a statement is false. However, this idea was unquestionably fostered by the fact that for years the per cent of added water in milk was computed by using a freezing point of  $-0.550^{\circ}\text{C}$  as a base point for calculation. Some people assumed that the freezing point of all normal milk was  $-0.550^{\circ}\text{C}$ .

The use of the value of  $0.550^{\circ}\text{C}$  as a base point for calculating added water apparently was originally suggested by Winter (15). He published a table

which has been accepted by some as indicating the exact relationship between freezing points and percentage of added water. A literal interpretation of this table, leads one to assume that the freezing point of undiluted milk is constant and that the correct value is  $-0.550^{\circ}\text{C}$ . The published freezing point data provide ample evidence to refute this assumption.

In 1923, when the Association of Official Agricultural Chemists (8) officially adopted the Hortvet cryoscopic method, they recommended that  $-0.550^{\circ}\text{C}$  be considered the average freezing point of normal milk, with the allowance of a 3% tolerance. In other words milk having a freezing point higher than  $-0.533^{\circ}\text{C}$  was considered illegal. The 3% tolerance figure was apparently chosen because most of the freezing points determined in the original A.O.A.C. collaborative study (2) fell within 3% of  $-0.550^{\circ}\text{C}$ . However, it is worth noting that the highest freezing point observed in this study was  $-0.530^{\circ}\text{C}$ . In view of this, it is not clear why the tolerance was not extended to  $-0.530^{\circ}\text{C}$ .

The results of numerous studies conducted since 1923 reveal that most of the freezing points fall between  $-0.530$  and  $-0.570^{\circ}\text{C}$ . In a few cases values have been reported outside of this range. In general, the observed ranges depend on the source and number of samples. The maximum variations have been observed when individual milkings from individual cows have been tested, whereas, samples from bulk supplies exhibit the least variations.

The causes for variations have been studied by several investigators. Some of the variations have been attributed to seasonal effects, feed, water intake, breed of cow, and time of day (i.e. morning versus evening milk). In some cases the effects of these factors have been shown to be interrelated. For example, the differences between the freezing point of morning and evening milk have been shown to be affected by the time of feeding and watering. Differences have been observed between the freezing points of milk from different geographical areas. Such differences might be explained on the basis of differences in the breeds of cows and feeding practices. In spite of the reported variations, results obtained in England (14), Australia (11), India (4, 5) and the United States (2, 6, 9) show approximately the same range of values.

Variations in the freezing point have also been attributed to the methods of handling milk. It has been reported that storing samples at low temperatures, or freezing them, may raise the freezing points. Of course, the freezing points of samples which have undergone microbial decomposition will be lowered as a result of the production of such water-soluble constituents as lactic acid. Some analysts claim that heat treatment affects the freezing point slightly,

whereas other workers have not observed any change. Vacuum treatment of milk has been reported to raise the freezing point slightly. The effect of vacuum treatment has been attributed primarily to the removal of carbon dioxide.

There has been considerable controversy concerning the average freezing point of milk. Most of the averages reported in the literature fall between  $-0.540$  and  $-0.550^{\circ}\text{C}$ . The fact that not all averages were the same could easily be explained on the grounds that the different analysts did not necessarily have truly representative samples. Of course, the differences between different analysts could also have been due to differences in cryoscopic techniques.

At the beginning of this talk, I asked the question - "Does all undiluted milk have the same freezing point?" The answer to that question is an unqualified "No"! Obviously, then, a single value can not be given in answer to the question - "What is the freezing point of undiluted milk?" It is evident from the data cited in this discussion that any fixed arbitrary standard is not equally valid for all milks. In recognition of this fact, the Association of Official Agricultural Chemists has revised its recommendations for interpreting freezing point data. These revised recommendations, as published in the 1960 edition of *Official Methods of Analysis (I)*, are essentially as follows:

1. The presence of added water is indicated if the freezing point is above  $-0.530^{\circ}\text{C}$ .

2. It should not be assumed that milk with a freezing point below  $-0.530^{\circ}\text{C}$ . is necessarily free of added water. In fact, samples representing large mixed lots of milk will probably have freezing points below  $-0.540^{\circ}\text{C}$ . Such milk having a freezing point above  $-0.540^{\circ}\text{C}$ , or showing large fluctuations in freezing points from day to day should be regarded with suspicion.

3. If desired, the "minimum percentage of added water" can be computed, using the following formula:  $W = (100 - TS) (T - T') / T$ , where  $T = -0.530^{\circ}$ ,  $T'$  = the freezing point of the sample, and  $TS$  = percentage of total solids.

These revised recommendations are similar to those adopted by the British Standards Institution (3) in 1959.

These recommendations call attention to the fact that freezing points do vary and that this variability

should be considered in interpreting results. The use of the term, "minimum percentage of added water" calls attention to the fact that it is not possible to calculate the exact percentage of added water. To calculate results by the suggested formula it is necessary to determine the percentage of total solids. This requirement increases the accuracy of the estimation and, incidentally, provides supplementary information concerning the sample.

In spite of the variations between samples, analysts, and interpretations, the freezing point of milk is the most reliable index of added water. As with any index, its usefulness is limited by one's understanding of its meaning.

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# FORTY-EIGHTH ANNUAL MEETING

## OF THE

# INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC.

AUGUST 14-17, 1961, SAVERY HOTEL, DES MOINES, IA.

### IOWA ASSOCIATION SPONSORS OUTSTANDING ANNUAL MEETING

With little time for advanced planning and preparation, due to shifting the Golden Anniversary meeting of IAMFS from Jekyll Island, Georgia to Des Moines, Iowa, the Iowa Association of Milk Sanitarians out did themselves. Under the Co-Chairmanship of R. L. Sanders and E. O. Wright, the Iowa Association sponsored one of the most effectively organized annual meetings in recent years. Advance predictions of attendance were exceeded as over 300 were registered during the four day meeting. Particularly significant was the representation among those attending, for several members from almost every state as well as from Iceland, Israel and several provinces of Canada were in attendance.

The complexity of the activities of sanitarians as they begin the second half-century after the founding of their largest professional society was the theme of the keynote address by Dr. Marcus Rosenblum, Editor of *Public Health Reports*. With research uncovering new knowledge and with mans' environment changing rapidly, Dr. Rosenblum pointed out that the sanitarian becomes even more of a key figure in the control of environmental health.



Dr. John J. Sheuring, University of Georgia, Athens, Ga., left, retiring as President of International Association of Milk and Food Sanitarians, here passes the gavel of authority to new IAMFS President Charles E. Walton, Laramie, Wyoming.

President J. J. Sheuring, in his Presidential Address, reviewed the activities of the Association, emphasizing the many Association activities carried out in the interest of better environmental health. Dr. Sheuring referred especially to the continuing progress of the work of the Committee on Coordination of Labeling, Definitions, and Standards for Milk and Its Products. Headed by Dr. A. C. Dahlberg of Cornell University, this committee is progressing steadily in accomplishing their objectives of effecting uniform labeling of products in the interest of free movement of products in markets and of reducing packaging expense which presently is sometimes costly due to conflicting labeling requirements.

Dr. Sheuring also called attention to the organization of the National Mastitis Council during the year. Under the leadership of Dr. Robert Metzger, Director of Quality Control, Dairymen's League, Syracuse, New York, and Chairman of the Council, committees have been organized and plans are being prepared for a coordinated program toward control of bovine mastitis.

For several years the feeling has been growing that the Association must provide for a more suitable method of electing its officers. Recognizing that only a fraction of the membership is present at annual meetings to vote in the election of officers, Dr. Sheuring recommended a study of the Association policy for election of officers for the purpose of providing for a more equitable procedure. Later at the business meeting the membership passed a resolution directing the Executive Board to make such a study.

Of particular significance was the report at the business meeting of H. S. Adams, Chairman of the Journal Management Committee. Mr. Adams reported that the Executive Board had authorized the employment of an Assistant Executive Secretary whose primary immediate responsibility will be to enhance the effectiveness of the Journal in its coverage of Association affairs and to assist in matters relative to publishing the Journal.

Attendance at all sessions of the program was exceptionally good this year. Undoubtedly the convenience of meeting rooms and the excellent facilities provided contributed much in this regard. Several excellent panel discussions attracted a great

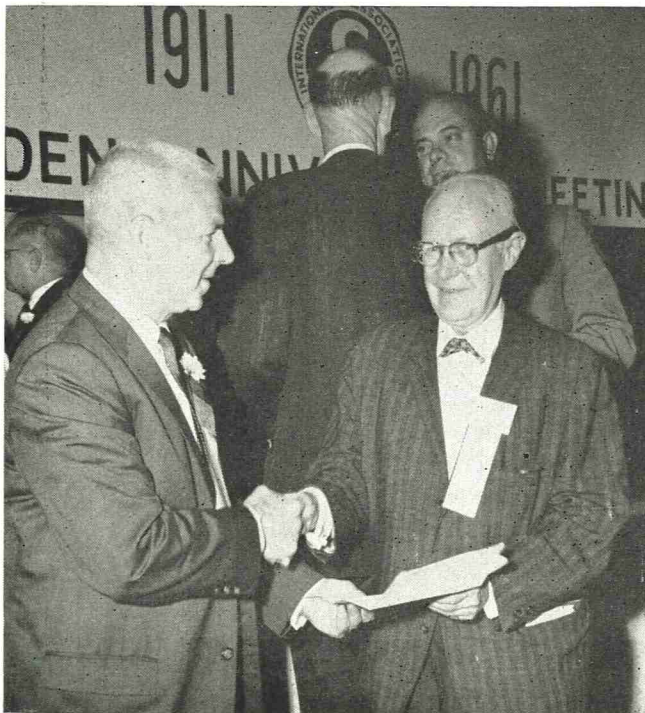


Mr. Wm. V. Hickey (right) receives the Past-President Certificate from retiring President, Dr. J. J. Scheuring.

deal of interest. These as well as other papers presented will be published in subsequent issues of the Journal. Abstracts of most of the papers presented are printed elsewhere in this issue.

An excellent and extensive Ladies Program was arranged by the local Committee under the direction of Mrs. Stanley Hendricks, Mrs. Robert Sanders and Mrs. Ray Belknap. Tours on Tuesday and Wednesday included visits to Salisbury House, the unique former home of Carl Weeks; the Des Moines Art Center, the Meredith Publishing Co., publisher of *Better Homes and Gardens* and *Successful Farming*; a fallout shelter constructed in the new Veteran's Memorial Auditorium; and the new 4½ million dollar

On behalf of former members of the Committee on Sanitary Procedures I. A. Parkin (left) presents a letter of appreciation to C. A. Abele retiring Chairman of the Committee.



Y.M.C.A. building. Dr. and Mrs. Hendricks were hosts at a tea for the ladies at their home.

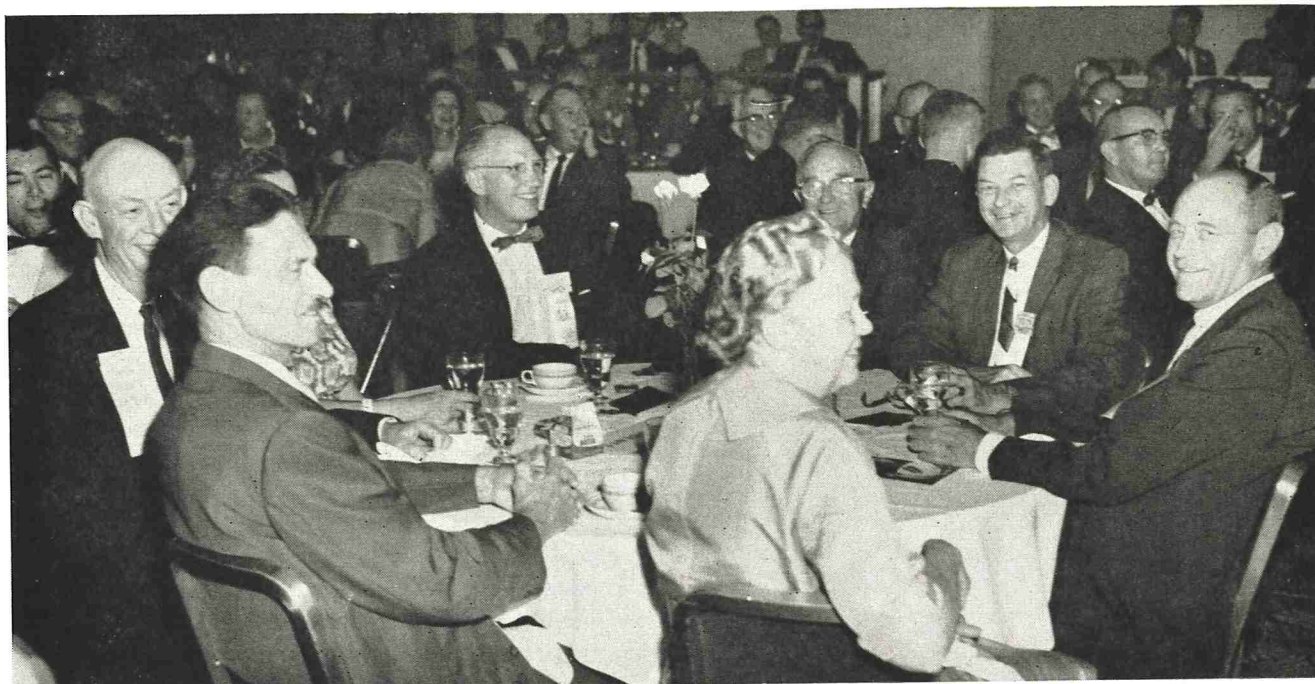
Door prizes given at the beginning of each session and donated by various affiliate associations again were effective in stimulating prompt attendance at the beginning of each session.

At the Association business meeting Wednesday, Dr. W. C. Lawton, Director of Laboratories and Quality Control, Twin City Milk Producers' Association, St. Paul, Minnesota, was elected *Second Vice-President*. Thus, Dr. Lawton begins a term of office which may eventually lead to the Presidency of the Association since the *President-Elect*, *First Vice-President*, and *Second Vice-President* automatically advance to the office of *President*, *President-Elect*, and *First Vice-President*, respectively. A brief amount of Dr. Lawton's background and activities are given elsewhere in this issue of the Journal.

Mr. Karl K. Jones, Director of Food and Restaurant Section, Indiana State Board of Health, was re-elected Secretary-Treasurer of the Association. Advancing to other IAMFS offices for 1961-62 were: Mr. C. A. Walton, Laramie Health Department, Laramie, Wyoming as *President*; Mr. R. A. Belknap, Iowa Department of Health, Des Moines, as *President-Elect*; and Mr. J. H. Fritz, Milk and Food Program, Division of Environmental Engineering and Food Protection, Public Health Service, Washington, D. C. as *First Vice-President*. These officers, along with Dr. Lawton and Mr. Jones, constitute the Executive Board of IAMFS for the year 1961-62.

The Affiliate Council met at a dinner meeting Tuesday evening with Dr. Richard Parry, Connecticut Department of Agriculture, presiding. Dr. Parry was re-elected Chairman of the Council and Mr. Richard March, Department of Dairy and Food Science, Cornell University, Ithaca, N. Y., was elected *Secretary*. A complete report of the Council meeting will be published in a forthcoming issue of the Journal.

As always, the annual banquet held Wednesday evening was highlighted by the Association Award presentations. The Sanitarian's Award and accompanying check for one-thousand dollars went to Mr. Martin C. Donovan, Airport Sanitarian of the Dade County, Florida Department of Public Health. In recognition of outstanding service to the Association, the Citation Award was presented to Professor H. S. Adams, Department of Public Health, Indiana University Medical Center, Indianapolis. Mrs. Sarah Vance Dugan, retired Director of the Food and Drug Division, Kentucky State Board of Health, was awarded an Honorary Life Membership. Reports on these awards may be found elsewhere in this issue of the



Past-Presidents of IAMFS enjoy banquet program. Seated (left to right) are H. L. Thomasson, C. K. Johns, Mrs. K. G. Weckel, Dr. K. G. Weckel, Mrs. C. K. Johns, Dr. M. R. Fisher, Prof. H. S. Adams, and H. J. Barnum.

Journal. Retiring President Dr. J. J. Sheuring presented Mr. W. V. Hickey with a Past-President's Certificate.

The 1962 Annual meeting will be sponsored by the Pennsylvania Dairy Sanitarians' Association. The dates are October 25-28, 1962 and the location will

be Philadelphia. The meeting will immediately precede the International Dairy Exposition at Atlantic City October 28-November 3, 1962. Members are urged to plan to spend an extra day or two and attend the Exposition in Atlantic City only a short distance from Philadelphia.

## THE PRESIDENT'S ADDRESS

JOHN J. SHEURING

*Department of Dairying, University of Georgia, Athens*

Fifty years ago, a group of dedicated sanitarians met and formed an organization that has grown into the largest association of sanitarians in the world, The International Association of Milk and Food Sanitarians, Inc. From that humble beginning involving thirty-five members, the Association has grown until it now has more than 4200 members located in every section of the world. The contributions, made by the members of the Association, have directly or indirectly affected the welfare of millions of people. It is indeed an honor to serve the Association as its President during this Golden Anniversary. In just a few minutes, a group of members who have contributed so much to the Association will discuss some of the major accomplishments which have been made during the past fifty years.

On behalf of the Executive Board and the members of the Association, I want to express our sincere

appreciation to the members of the Iowa Affiliate for their wonderful spirit of cooperation in arranging this meeting at Des Moines. As most of you know, this meeting was originally scheduled to be held at Jekyll Island, Georgia, under the joint sponsorship of the Florida, Georgia and South Carolina Affiliates. Due to a number of problems, the meeting could not be held as scheduled. The Iowa group has done a marvelous job during the transition and we appreciate all of the help which has been given. I want to thank all of the sanitarians in the Southeast who helped so much in planning the meeting for that area and I am sure they were disappointed in having the location changed. They are a loyal group and will continue to do everything possible to further the objectives of the International Association of Milk and Food Sanitarians.

The President of the Association seldom has an

opportunity to discuss policies with the members, therefore, he appreciates having a few minutes on the program to discuss the progress, problems, and plans for the future for the Association.

We have known for many years that it was imperative to improve the lifeline to our members, the *Journal of Milk and Food Technology*. Two years ago, you approved an increase in dues with the understanding that the increase in revenue would be used primarily to provide editorial assistance in connection with publication of the Journal. No action could be taken by the Executive Board until we were convinced fully that sufficient funds would be available on a continuing basis to provide adequate capital for hiring an adequate person. Several differences of opinion have been expressed about the job description, qualifications of the individual, and these had to be resolved. I am happy to announce that definite action has been taken at this meeting, by the Board, to proceed to hire an Assistant Executive Secretary within the next ninety days. The primary responsibility of this employee will be to supervise the work of preparing the Journal for publication and to provide editorial assistance particularly in the coverage of Association affairs. In addition he will have the responsibility of learning the details of the Association administration. We are looking for a qualified individual and will accept recommendations and applications through our Shelbyville office.

At our annual meeting in Chicago a year ago, two important groups held preliminary meetings. Through the efforts of the Executive Board, Dr. Kenneth Weckel, the Farm Methods Committee of our Association, and members of various dairy groups, a National Mastitis Action Committee was organized. The primary objective of the Committee was to correlate all research and educational activities pertaining to the control of mastitis. I am happy to report that positive action has been taken and the National Mastitis Council, Inc., has been organized on a permanent basis. The officers of the Council are Dr. Robert Metzger, President; Mr. George Willits, Executive Secretary; and Mr. M. G. Van Buskirk, Treasurer. A report of the activities of the Council will be given tomorrow morning.

Another important organizational meeting at Chicago was sponsored by our Committee on Ordinances and Regulations. A group of men, representing various phases of our dairy industry, met to discuss the possibility of organizing a National Committee on Coordination of Labeling, Definitions, and Standards for Milk and its Products. I am happy to announce that definite progress has been made by this committee and a report will be given to you tomorrow

morning concerning its activities.

For the past several years, the International Association of Milk and Food Sanitarians has sponsored the William B. Palmer Scholarship which has been financed by contributions from the Affiliates. This method of financing has not proven successful. I am happy to announce that the Executive Board has approved Association funds to continue this scholarship program. The winner of the Award for this year will be announced at the banquet tomorrow evening.

Many of you have expressed opinions concerning the possibility of having closer working relationships with the various sanitarian organizations in the country. Through the efforts of the Sanitarian's Joint Council, progress has been made in some programs which are of mutual interest to all sanitarians, for example, the Model Registration Act. I am happy to announce that the Executive Board has provided funds to finance our representatives on the Council and has given them instructions to pursue with vigor the establishment of a Specialty Board which will recognize sanitarians who have demonstrated outstanding qualities in their profession. A meeting of the Council is scheduled for November of this year.

I would like at this time to discuss some of the problems of the Association and make certain recommendations in trying to help solve them. I must emphasize that these are my personal opinions and do not necessarily reflect the majority opinion of the Executive Board and the Association.

Our financial situation is excellent and money is being added to our reserves. We felt that increasing dues would cause a major decrease in membership for one or two years. I am happy to announce that this situation did not occur and our membership has remained loyal through this period of financial readjustment. Our Association is stronger at this time than ever before in its history.

Having served on various committees and the Executive Board of the Association for almost ten years, I hope that what I have to recommend will be accepted on the premise that the recommendations are in the best interest of the Association. I know that many of you will disagree with the recommendations and you should express yourself accordingly. Only through open discussion, constructive criticism, and positive action can our problems be solved.

Under the provisions of the Constitution and By-Laws of the Association, an elected officer serves on the Executive Board for six years. Any previous officer will verify that he does this at considerable personal expense, loss of time from his regular employment, and is subjected to a certain amount of pressure which is sometimes unpleasant. He is re-

warded by knowing that he is doing his best to serve the Association, that he makes a host of new friends, and by learning to acquire more patience than he ever anticipated. However, unless an officer has a very generous and understanding boss, an efficient secretary, and is willing to spend a good portion of his time working for the Association, he should never accept a job as an elected officer of the International Association of Milk and Food Sanitarians. Some of us are more fortunate than others in having the above cooperation, but in my particular case, it has required hiring additional secretarial help. I am happy to announce that the Board has taken action at this meeting to provide a contingency fund for use by the President. We hope this will enable more men to consider accepting an elective office of the Association when economic conditions might otherwise deter them.

I believe no officer of the Association should be expected to serve more than three years on the Executive Board. There is some tendency for the Board, under the present procedures, to become static. Each time a new member joins the Board, all of the old problems have to be rehashed which means considerable loss of time in trying to get problems solved. As a result, a Board member gets somewhat discouraged after about four years. I would recommend that at the next annual meeting, legal steps be taken to change the Constitution and By-laws of our Association to eliminate the offices of the Second Vice-President and the Senior Past President. This will provide financial economies for the Association, an opportunity to have a more flexible Board, and a continuous flow of new blood in the management of the Association.

An association will progress as long as it has goals, the support of its members, and strong leadership. I am firmly convinced that we need to change the method of electing our officers in order to provide a greater voice by our members in these selections. With present travel restrictions pertaining to out-of-state travel, many sanitarians can not attend national meetings. However, this should not deprive them of the right to help elect the officers of the Association. I recommend that we take necessary legal action in changing our Constitution and By-laws to provide some method of voting which will give the membership a greater voice in the election of the officers of the Association.

The role of the sanitarian is changing rapidly. Our Executive Secretary reported last year the number of sanitarians engaged in various phases of public health work. This report showed that we are not just milk and food sanitarians but a large number of our members are engaged primarily in general

sanitation. We are faced with the possibility of losing some affiliates unless we take positive action in changing the name of our Association to include the general sanitarian. We have discussed this problem many times, like most of the other problems, but we are remaining static and this may be the way the majority of the members would prefer to have it. I am pointing out the problem and believe we should change our name accordingly. I recommend that the necessary action be taken at our next annual meeting.

There are some definite trends taking place in this country pertaining to sanitarian organizations. Sanitarians are being asked to join different organizations and often question how many of them are really contributing to their profession. They have to decide how many organizations they wish to join, how much they are willing to pay in dues, and which organization will serve them the best. This is getting to be a more important decision, especially with registration continuing to proceed under state laws. I think we should make every effort to work with other sanitarian organizations to help solve these problems primarily for the benefit of sanitarians. I am sure this is not a popular position in some sections of our Association but I am more concerned with the future interests of sanitarians than running a popularity contest.

It seems to me that we should take some active steps in reorganizing the committees of the Association. We have some excellent committees under the guidance of strong leaders. We have some committees that do nothing. Perhaps, some of the committees have no real objective, are too large, and lack good organization. I believe this problem should be studied very carefully and some definite action taken. Perhaps, new committees should be established, old ones reorganized and in some instances abolished. The Executive Board has taken action at this meeting to instruct the two Vice-Presidents of the Association to make a thorough study of this problem next year and report at the next Annual Meeting.

The administration of an Association of this type is extremely difficult and cumbersome. I have some firm convictions about the duties of the Executive Board and the Executive Secretary. It is almost impossible for either the Board or the Executive Secretary to accomplish some objectives under present administrative policies. This is a situation which should be remedied by a continuous study of the responsibilities of the Board and the Executive Secretary. Unless I should be misunderstood, this is no personal criticism of any Board member or the Executive Secretary. It is a situation which has developed

because responsibilities are not as clearly defined as they might be. Many important matters are not handled properly because of this lack of coordination of responsibilities.

I hope these recommendations are accepted in the spirit they are given, which is to help our Association and its members. It seems to me that the President should point out the problems to the members as he interprets them.

I want to thank all of the dedicated people of this Association, the Executive Board, and our Executive Secretary for their help, constructive criticisms, and

patience. I am sure that most people act on the basis of their convictions. If others disagree with those convictions, this is as it should be and objections should be voiced.

We are all dedicated to the proposition that we have the best sanitarian organization in the world and will do everything we can to insure its continued success. The Association belongs to you; whether it succeeds, remains static, or fails, is entirely in your hands. The officers whom you elect can serve to the best of their ability but they can not make all of the decisions for you.

### **SANITARIAN'S AWARD AND \$1000 GRANTED TO MARTIN C. DONOVAN, DADE COUNTY (FLA.) OFFICIAL**

The 1961 Sanitarian's Award of International Association of Milk and Food Sanitarians has been awarded to Martin C. Donovan, Airport Sanitarian of the Dade County (Fla.) Department of Public Health, in ceremonies at the Golden Anniversary Meeting of IAMFS, August 16, at the Hotel Savery in Des Moines, Iowa.

This award, carrying with it a \$1,000 check, is the highest professional honor in the field of sanitation. It is annually presented to the municipal or local sanitarian who has contributed most meritoriously to the health and welfare of his community for the five year period just past.

Martin C. Donovan has been pioneering in a specialized field of sanitation since 1955, when he was assigned, along with his regular duties, the job of picking up water samples for testing from commercial aircraft leaving Miami International Airport and the inspecting of all caterers serving the airlines for certification by the U. S. Public Health Service. Mr. Donovan is a local sanitarian, but the results of his pioneering work have been nationwide, or even international, since more than four million passengers pass through the Miami International Airport in the course of a year from all parts of the globe.

Once the airport had been made a part of his assignment in 1955, Mr. Donovan observed that there were sanitation defects in the then-abuilding airport which were potential health hazards to the Miami area from incoming air traffic and to many sections of the country by outgoing air traffic. Neither the airlines nor the airport authority had an over-all sanitation program, and he convinced both to accept his services as a consultant and to agree to include his recommendations for an adequate sanitation program in the construction of the new airport.

Just before the new terminal opened in December 1958, Mr. Donovan was assigned to full-time duty as Airport Sanitarian. This duty extended beyond assuring that waste disposal, potable water supply, catered airline meals, meals for airport employees, and removal of wastes from aircraft chemical toilets



Standing at the podium is Martin C. Donovan, Airport Sanitarian of the Dade County (Fla.) Department of Public Health, who has just received the Sanitarians Award for 1961.

and other facilities were operated without hazard to health and safety. It extended also to training for food handlers, rodent and insect control, inspection of aircraft galleys, public drinking facilities, restaurant inspection, frozen food storage, and intermittent emergencies.

He established excellent management relations between the airlines and the County Health Department. His suggestion to one airline of the feasibility of using single-service tubing (as on bulk milk dispensers) on gally portable water containers provided the solution to an equipment problem which had been troublesome. The airlines now constantly confer with Mr. Donovan on matters pertaining to aircraft galley construction, potable water trucks, soil carts, food and drink equipment used aboard aircraft, hygiene for personnel, and food handler training programs as related to such service aboard aircraft.

According to his colleagues, Mr. Donovan's work has been recognized as the first complete program of sanitation designed to meet the special problems created by the air travel industry.

The Sanitarian's Award is made possible by five companies: Diversey Corporation, Klenzade Products, Inc., Oakite Products, Inc., Olin Mathieson Chemical Corporation, and Pennsylvania Salt Manu-

facturing Company. Selection of the recipient is an exclusive function of IAMFS, however.

Earlier recipients, and their positions at the time, are:

Paul Corash, Chief of the Milk Division, New York City Health Department (1952).

Dr. E. F. Meyers, Chief of the Milk, Meat and Food Division of Grand Rapids, Mich., Health Department (1953).

Kelley G. Vester, Senior Sanitarian of the Rocky Mount, North Carolina, City Health Department (1954).

B. G. Tennant, Chief Sanitarian of the Escambia County Health Department, Pensacola, Florida (1955).

John H. Fritz, Chief of the Milk and Food Section of the Kansas City, Missouri, Health Department (1956).

Harold J. Barnum, Chief of the Milk Sanitation Services of the Department of Health and Hospitals, Denver, Colo. (1957).

Carl A. Mohr, Sanitarian and Deputy Health Officer, Health Department, Green Bay, Wisc. (1958).

William Kempa, Dairy and Milk Inspector for the City of Regina, Saskatchewan, Can., (1959).

James C. Barringer, Director of Sanitation of the city of Evansville, Indiana, (1960).

### IAMFS CITATION AWARD FOR OUTSTANDING SERVICE GIVEN TO HAROLD S. ADAMS

Harold S. Adams, Assistant Professor of Indiana University's Department of Public Health and Director of the University's Sanitary Science Courses, was presented the Citation Award of International Association of Milk and Food Sanitarians at the Golden Anniversary meeting of IAMFS August 16, in Des Moines, Iowa.

A framed certificate bestowed annually by the association to salute outstanding service to it and to the advancement of the professional status of all sanitarians, the award this year honored a past president and active committee worker, as well as a widely known author, lecturer and educator in the public health field.

Mr. Adams began his career in 1930 as a milk sanitarian with the Massachusetts Department of Public Health in Boston. He served in other local and county health departments in New England and the Middle West until 1942, when he first served as a faculty member and lecturer in food and milk sanitation at the School of Public Health at the University of Minnesota. In 1944, he was commissioned a Captain in the U. S. Public Health Service, Active

Reserve, and eventually was transferred to Washington where, with the rank of Major, he was in charge of the surplus milk and food equipment disposal of the Surplus War Property Distribution Program.

Post-war years saw "Dick" Adams returning to Minnesota for service in state and local capacities.



Professor H. S. Adams (left) receives the IAMFS Citation Award from Dr. F. W. Barber, Chairman of the Awards Committee

From 1949 until 1952, he was Assistant Project Director of the National Research Council's study of milk regulations and quality on a nation-wide basis. Since 1952, he has been on the faculty of Indiana University's Department of Public Health.

Presently Mr. Adams serves as associate editor of the *Journal of Milk and Food Technology*, and among the committees of IAMFS on which he is active are the Journal's Management Committee (he is chairman), the Committee on Education and Professional Development, and the Sanitarian's Joint Council. He is also a past president of the Indiana Association of Sanitarians, and he is an active member and fellow of the American Public Health Association, in which he is active on several national committees.

#### HONORARY LIFE MEMBERSHIP AWARDED TO SARAH VANCE DUGAN

Mrs. Sarah Vance Dugan of Louisville, Kentucky, who recently retired as Director of the Food and Drug Division of the Kentucky State Board of Health, was honored by being elected to Honorary Life Membership. Mrs. Dugan has been an active member of the Association since 1923 and it was in recognition of her outstanding achievement in the field of Milk and Food Sanitation that this Honorary Life Membership was given. Since Mrs. Dugan was unable to be present at the meeting, Shelby Johnson, her successor as Director of the Food and Drug Division, accepted the award for her.



IAMFS Life Membership Certificate given to Sarah Vance Dugan is received on her behalf by Shelby Johnson (left) from Dr. Barber, Chairman of the Awards Committee.

#### WALLACE C. LAWTON ELECTED SECOND VICE-PRESIDENT OF IAMFS

Dr. Wallace C. Lawton, a member of the Minnesota Sanitarians' Association, one of 29 such Associations affiliated with IAMFS, was elected *Second Vice-President* at the International Association's Golden Anniversary Meeting in Des Moines, Iowa, August 14-17, 1961. Dr. Lawton thus begins a term of Service in IAMFS which may culminate in his ascending to the Presidency of the Association in 1964. According to IAMFS policy the *President-Elect*, *First Vice-President* and *Second Vice-President* automatically advance to the offices of *President*, *President-Elect* and *First Vice-President*, respectively.

Dr. Lawton is Director of Laboratories and Quality Control for Twin City Milk Producers' Association, the largest among several farmers' cooperative associations which supply the Grade A fluid milk market of the metropolitan area of Minneapolis and St. Paul, Minnesota. Formerly, he was Director of Laboratories of the Minneapolis and St. Paul Quality Control Committee, an organization representing all producers, processing plants and health departments within the Twin City area.

For many years Dr. Lawton has been an active member of IAMFS and has published several research papers in the *Journal of Milk and Food Technology* and elsewhere. Currently, he serves on two Committees, the Committee on Applied Laboratory Methods and the Committee on Research Needs and Applications. The latter Committee provides the source material for the Questions and Answers column in the *Journal*. Likewise, he has served the Minnesota Association through various committees and as a participant on numerous annual and regional meeting programs.

Dr. Lawton was born in Tessier, Saskatchewan, Canada. He received the B. S. degree in Agriculture and the M. S. degree in Dairy Bacteriology at the University of Saskatchewan, Saskatoon, Canada. After World War service with the Royal Canadian Airforce he entered the Graduate School at Iowa State University and in 1954 received the Ph. D. degree in Dairy Bacteriology. He is an active member in several other professional societies including the American Society of Microbiology and the American Dairy Science Association.

The Lawtons and their son Glen, age 7, reside at 1450 Trollhaugen Drive, Minneapolis 13, Minnesota.



## ABSTRACTS OF PAPERS PRESENTED AT THE 48TH ANNUAL MEETING OF THE INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC.

The complete text of papers presented at the annual meeting will be published in subsequent issues of the Journal.

*Mandatory Poultry Inspection*, by W. F. DOSSEY, Inspection Branch, Poultry Division, Agricultural Marketing Service, U. S. Dept. of Agriculture, Washington, D. C. — The history and development of the Poultry Inspection Service is discussed along with the training program developed in 1958 by the Poultry Division's Inspection Branch before the inception of the Poultry Products Inspection Act in January 1, 1959. The declaration of policy and responsibility of the USDA in directing the inspection program under the PPIA are covered. The requirements for qualifying a poultry processing plant for inspection service and the sanitation requirements under the poultry inspection program are discussed at length.

*Sediment Testing of Bulk Tank Milk on the Farm*, by B. J. LISKA, Dairy Department Purdue University, Lafayette, Indiana — A modified sediment tester for performing sediment tests on farm bulk milk is described. The tester consists of the Superior type pressure tester, now available, with a water jacket made from three inch stainless steel pipe held in place with neoprene gaskets. A dial thermometer inserted in the top of the tester indicates the temperature of the milk. A hose is connected to the water inlet for circulation of water through the jacket. The milk is prewarmed to 80 - 90°F. in the tester with hot water circulating through the water jacket. Water at a temperature of 130°F. circulating through the water jacket at approximately one gallon per minute will warm a pint of milk in the tester from 38°F. to 90°F. in 1.5 minutes.

Procedure to be followed with the tester:

1. Start the agitator on the bulk milk tank.
2. Attach the tester to the source of hot water and regulate water flow.
3. Place a lintine cotton disk in the tester head.
4. After 3 - 5 minutes of agitation, measure one pint of milk into the tester.
5. Replace the top of the tester and allow the milk to be prewarmed to 80-90°F.
6. When milk is 80 - 90°F., as indicated on the thermometer, shut off the water and force the milk through the pad.
7. Remove the filter pad, label and grade it.

Use of this equipment provides a rapid, practical way of testing bulk tank milk for sediment on the farm before it is pumped into the bulk tank truck.

*Bacterial Counts of Bulk Milk for Interstate Shipment as Affected by Farm and Plant Practices*, by A. RICHARD BRAZIS and LUTHER A. BLACK, Milk and Food Research, R. A. Taft Sanitary Engineering Center, Public Health Service, Cincinnati, Ohio — The bacteriological quality of raw milk at dairy farms and subsequent bacteriological changes which occur in this milk when stored by shipping stations and shipped interstate has been investigated. The influence of farm and plant practices upon the bacterial counts of raw milk has been evaluated at nine shipping stations and seven pasteurization plants. The data received during the study have indicated that proper use of cleaning and sanitization

procedures by milk producers and dairy plant personnel will result in the production of low bacterial count milk and the subsequent handling through receipt at distant dairy processing plants will result in relatively slight increases in bacterial counts. The influence of seasons upon the bacteriological quality of milk produced and subsequent processing by plant personnel has indicated that bacterial counts of raw milk may be higher during the spring and summer than during the winter. The significance of coliform and psychrophilic organisms in milk at the various phases of farm and plant procedures has been studied in relation to their role as possible indicators of dirt or ineffective cleaning and sanitizing of the equipment used.

*Composting of City Refuse*, by WALLACE H. FULLER, Head, Dept. of Agricultural Chemistry and Soils, University of Arizona, Tucson — Disposal of city waste has become one of modern civilizations most serious problems. With exploding populations and rapidly expanding communities this problem is becoming desperate. The present municipal refuse disposal practices in the United States are wasting a valuable resource for agricultural use, polluting water sources, contaminating sea shores, polluting the air with smoke from burning, and breeding flies, rats and other kinds of vermin. The time to correct antiquated and unsanitary practices of refuse disposal is now. Composting of city refuse offers one of the most effective and sanitary methods of disposal yet devised. Composting provides a source of organic matter for maintaining and building soils. Its agricultural value will increase considerably as long use and demands for high production from soils exhausts native-organic matter nature has taken many centuries to form. Composting processes are designed to reclaim certain valuable materials such as; cardboard, bottles, glass, and metals. The microbiological, chemical and physical aspects of composting city refuse are discussed. The chemical composition of compost from city refuse contains about 0.4 to 3.5% nitrogen, 0.3 to 3.5% phosphorus (as  $P_2O_5$ ) and 0.5 to 1.8% potassium (as  $K_2O$ ) in addition to its organic matter. Agricultural experiments with several test crops are reported that show the high value of compost for improving plant growth in certain soils low in organic matter.

*A Man of Principle - A Man of Vision - A Tribute to Leslie Carl Frank*, by H. E. EAGAN, Milk and Food Training Consultant, Public Health Service, Dept. of Health, Education and Welfare, Atlanta, Georgia — The life of Leslie Carl Frank is a saga of achievement in the American tradition. His life's work is recalled during this Golden Anniversary. His philosophy of hard work, belief in high principles, new ideas and the integrity of his fellowman have left us a heritage of which we may be justly proud.

*Pesticide Residues - A Medical Appraisal*, by M. R. ZAVON, Ass't. Prof. of Industrial Medicine, College of Medicine, University of Cincinnati, Cincinnati, Ohio — New analytical procedures now make it possible to detect pesticide residues in food at a fraction of the level previously detectable. Such acute analytical methods raise the possibility that products formerly thought to have no residues will now be shown to have them. The fear has been voiced that pesticide residues may cause disease. If pesticide residues in food are shown to be more widespread than formerly believed, this fear of danger may be further stimulated. Investigations among the human population have thus far failed to reveal any deleterious effect from pesticide residues in food. Nor is there any other positive evidence of effect on the human population resulting from pesticide residues. Analysis of

mortality statistics tends to show many more likely reasons than the introduction of pesticides for changes in causes of death. There is no reliable evidence that the leading causes of death have been influenced by pesticide exposure in food or otherwise. Despite this absence of positive information there is no doubt that we need quantitative investigations to determine the actual exposure of the population to pesticide residues and long term, carefully controlled clinical investigations to determine whether or not injury actually occurs.

*Preliminary Report on Yellow Color That Appears on Bulk Tank Sediment Pads*, by EVERETT J. COLE, Director, Biological Research Laboratories, Arvada, Colo.; GORDON MACKEY, Field Representative, Safeway Stores, Denver, Colorado; and HAROLD J. BARNUM, Chief Milk Sanitation Section, Dept. of Health and Hospitals, Denver, Colo. — A yellow color observed on bulk tank milk sediment pads has been found to be primarily carotenoid pigments. In this examination of 470 quarter samples of 118 cows from three breeds, Holstein, Ayrshire and Guernsey, it was noted that the color was not associated with the breed of the animal or the period of lactation. There was an association between quarters showing increased leucocytes and possible mastitis producing organisms, and the yellow color on filter pads. The occurrence of yellow color appears to increase with the age of the animal.

*The Status of Bacteriological Standards for Frozen Foods*, by GLENN G. SLOCUM, Director, Division of Microbiology, Bureau of Biological and Physical Sciences, Food and Drug Administration, Washington, D. C. — The growth in production and distribution of frozen precooked foods has focused the attention of the Food and Drug Administration and the Association of Food and Drug Officials of the United States upon these products. Concern about the microbiological content as related to production sanitation and proper handling during distribution to maintain product safety and quality has led to the development of the AFDOUS Frozen Food Code. Establishment of bacteriological standards for frozen pot pies and dinners has been hampered by the lack of (a) sufficient data, (b) uniform methods, and (c) agreement upon criteria for such standards. Development of standards is complicated by variation in the nature of the products and processing techniques. When interpreted on the basis of factory inspection observations, bacteriological findings can be used to effect correction of insanitary conditions and practices.

*Future Imperfect*, by MARCUS ROSENBLUM, Executive Editor, Public Health Reports, Washington, D.C. — A look into the future of sanitation sees an increasingly higher level of responsibility and professional achievement. In particular, with respect to food, the need for further research, advanced training, and appropriate preventive measures is underlined by the increasing complexity and articulation of the system of food production, processing, and distribution. The complexity and articulation of urbanized society even requires that the sanitarian assume some of the stature of a statesman or political scientist. While professional alliances are important in this prospect, essentially the drive of dedicated individuals is what will carry the profession and society to new levels of achievement. An important instrument in this drive is the body of professional literature which is both the possession and product of those who serve public health.

*Basic Community Sanitation*, by MAXWELL J. WILCOMB, JR., Associate Professor of Sanitary Science, University of Oklahoma, Norman — Environmental sanitation is a complex field, and demands upon the environmental sanitarian are

increasing. To make the most of the skilled sanitarian's time in correcting community-wide deficiencies, careful planning, as exemplified by the Communicable Disease Center Vector Control Demonstrations, is needed. Basic steps of the demonstrations include: (a) an accurate and rapid block-by-block sanitation survey to define the community's needs; (b) summarization of the survey's findings as useful working data; (c) analysis of basic problems with consideration given to socioeconomic conditions; (d) development of a system of mapping the community's sanitation deficiencies, supplemented with pictures and charts, so that a comprehensive and progressive plan for correction of deficiencies can be devised on a logical community-wide basis; and (e) presentation of the problems to the community in an easily assimilable form so that community action can be developed. Familiarity with the procedures is believed desirable for generalists in the field of sanitary science. Accordingly, a 2-credit graduate course, Public Health Vector Control, which includes this information will be offered by the Department of Sanitary Science of the University of Oklahoma beginning with the second semester of the 1961-62 school year.

*The Land Grant Centennial*, by V. H. NEILSEN, Head, Dept. of Dairy and Food Industry, Iowa State University, Ames — The Centennial of the Land-Grant college system is fittingly observed by the International Association of Milk and Food Sanitarians as it will be by many other professional and scientific groups. Much of the initiative to establish systematic and uniform procedures in the examination of milk products and many contributions to the scientific basis for a sound milk sanitation program came from workers in Land-Grant universities. Through their academic and extension teaching, the Land-Grant universities created a force of industry workers, milk sanitarians and dairy farmers who together elaborated and enforced the high standards of milk sanitation which give consumers of milk and dairy products in the United States protection unequalled in the world and which is an essential requirement for the success of our milk industry.

*The Milk and Food Radiation Surveillance Activities of the Public Health Service*, by W. M. DECKER, Milk and Food Program, Division of Environmental Engineering and Food Protection, Public Health Service, Washington, D. C. — Evaluation of the potential hazard to man of environmental radiation exposure requires knowledge on the amount and distribution of significant radionuclides in the biological environment. Foods, including milk, are major sources of ingested radioactivity. Three programs are conducted in cooperation with State and local health departments, milk sanitation control agencies, the dairy industry and selected educational institutions, to provide continuing radiation surveillance through monthly sampling and analysis of raw milk, processed milk and total diets. These programs have provided a means of monitoring levels of specific radionuclides and have also led to the development of specific methodology for laboratory analytical procedures.

*Immunodiffusion, a Break-Through to Simpler and More Powerful Antigen-Antibody Analytical Techniques*, by ALFRED J. CROWLE, Head, Division of Immunology, Webb Institute for Medical Research, Assistant Professor, Dept. of Microbiology, University of Colorado School of Medicine, Denver — Complex mixtures of substances always have been difficult to analyze. Two outstanding biochemical techniques which have stood as landmarks in such analyses are chromatography and electrophoresis. Despite their excellence and versatility, however, they have not provided very effective ways for iden-

tifying individual kinds of complex very similar molecules like proteins. Immunodiffusion can be looked upon as a recent break-through in serologic technique at least comparable with these other two analytical methods in potential utility in biological investigations. It is capable of both resolving and identifying such individual species of molecules in very intricate mixtures of them by combining valuable elements of chromatography and electrophoresis with the specificity of antigen-antibody reactions. This paper explains the principles of immunodiffusion, compares certain of its aspects with those of older serologic techniques, describes some of its most useful forms, discusses certain factors affecting interpretation of results obtained with it, and suggests some uses to which it might be put in the production and analysis of foods and beverages.

*What Sanitarians Should Know About Stainless Steels*, by H. L. MITTEN, JR., Director of Technical Sales, The Creamery Package Mfg. Company, Chicago, Ill. — Although stainless steels are widely used for product contact surfaces in food processing equipment, there is considerable misunderstanding concerning surface finish, composition, corrosion resistance and cleanability. There are three main groups of stainless steels; (a) Martensitic which are straight chromium, heat hardenable steels; (b) Ferritic which are straight chromium non-hardenable steels; and (c) Austenitic which are chromium-nickel steels. All have a place in equipment because their particular characteristics are required by functional demands of the processing application. These stainless steels are not equal in corrosion resistance. They are listed above in order from lowest to highest. Specific stainless steels are not readily identified. Quick tests including a nitric acid spot test and a check of magnetism may be used for a rough identification of types, but for positive identification, samples should be sent to a metallurgical laboratory for analysis. While Austenitic stainless steels are non magnetic in the annealed condition, they become slightly magnetic upon cold working. Type 316 and the straight chromium stainless steels are somewhat magnetic. Surface finishes demanded by sanitary standards are related to mill finish. Mill finishes are defined finishes for sheet rather than measurable finishes. The definitions describe processing and size of abrasive used in the final finish. The standard mill finishes for stainless sheets are Nos. 2D, 2B, 3, 4, 6, 7 and 8. Of these No. 2D, No. 6 and No. 8 are not used for food processing equipment. Researches indicate that there are no significant differences in cleanability between Nos. 2B, 3, 4 and 7. The corrosion resistance of stainless steels is lowered when the passive oxide film on their surfaces is disrupted and a corrosive environment exists. Corrosion is greatly reduced through proper cleaning and prudent use of chemical bactericides. When chlorine bearing bactericides are used, they should be at as low a concentration as is effective, should not be used at temperatures above 80°F, and should not remain on the stainless steel for longer than 15 minutes. Stainless steel, when clean, and dry will quickly reform the protective passive oxide film upon a short exposure to the air.

*The Protective Screening Program for Canned Foods*, by JAMES W. BELL and IRA I. SOMERS, National Canners Association, Washington, D. C. — To improve and maintain consumer acceptance of canned foods the National Canners Association established the Protective Screen Program. This program enumerates the steps that are to be taken by canners to assure consumers that only necessary and safe pesticides or additives are used in the production of canned foods. The Protective Screen begins with a cooperative program between growers and canners. The canner is assisted in establishing this cooperative effort by the NCA Raw Products Research Bureau. A thorough understanding of pesticides and their use is the principal factor in the protection against pesticide residues above allowable tolerances. The NCA Laboratories provide assistance in establishing washing and cleaning procedures to remove undesirable chemicals from crops received at the canning plants. In addition, special attention is being given by the laboratories to the development of analytical methods for pesticides and additives which may be used by the industry. This includes a review of procedures used by FDA, USDA, pesticide manufacturers and others. Samples are also frequently analyzed as a check on the canners own personnel. Educational methods are employed to emphasize the importance of this problem in maintaining the integrity of canned foods. These include visits to individual plants, conferences and attendance at canners meetings.

*The Sanitarian Director Relationship*, by J. F. SPEARS, Director, Des Moines - Polk County Health Department, Des Moines, Iowa — The health officer and the sanitarian both tend to be independent, strongly-motivated men. Differences in training, and in their location in the hierarchy of public health organization may easily create opportunities for conflict. Conflict occurs whenever director and sanitarian act on the basis of hiding or compensating for real or imagined personality defects. Conflict can be prevented by self-understanding and by understanding and respect for others. This brings about concrete program achievement, and job satisfaction for all.

*The Pasteurization of Cream, Chocolate Milk and Ice Cream Mixes Containing the Organism of Q Fever*, by J. B. ENRIGHT, Division of Veterinary Medicine, University of California, Davis. — Under the conditions of this study the minimum recommended standard for pasteurization of milk, of 145° F for 30 minutes and 161° F for 15 seconds, is inadequate to eliminate viable *Coxiella burnetti* from cream and chocolate milk. However the standard for pasteurization of these products of 150° F for 30 minutes and 166° F for 15 seconds suggested by the Assistant Surgeon General of the Public Health Service is adequate. It is recommended that this suggested standard become official and that half and half, cream and milk beverages with added sugar and flavor be pasteurized accordingly. Investigation of the minimum recommended standard for the pasteurization of ice cream mix revealed this standard to be adequate to inactivate *C. burnetti* from this type of dairy product.

## WINNERS OF AFFILIATE ASSOCIATION DOOR PRIZES AT ANNUAL MEETING

### General Session

#### Tuesday afternoon

Donated by: Pennsylvania Dairy Sanitarians  
 Won by: Glenn G. Slocum, Food & Drug, Kensington, Maryland.  
 Donated by: Iowa Association of Milk Sanitarians  
 Won by: Robert R. Altimus, Dairy Industry Supply Association, Washington, D. C.

#### Wednesday morning

Donated by: New York State Association of Milk Sanitarians  
 Won by: Robert B. Wehmer, St. Louis Health Department, Willow Springs, Missouri.  
 Donated by: Associated Illinois Milk Sanitarians  
 Won by: Gordon H. Schwepper, Chicago, Illinois.  
 Donated by: South Carolina Association of Sanitarians, Inc.  
 Won by: Floyd E. Fenton, U.S.D.A., Washington, D. C.  
 Donated by: Iowa Milk & Food Sanitarians  
 Won by: Eaton E. Smith, Hartford, Connecticut.

#### Wednesday afternoon

Donated by: Rocky Mountain Association of Milk & Food Sanitarians  
 Won by: Ivan E. Parkin, State College of Pennsylvania, University Park, Pennsylvania.  
 Donated by: Minnesota Sanitarians Association  
 Won by: David Cleveland, Oklahoma City, Oklahoma.  
 Donated by: Iowa Milk and Food Sanitarians

Won by: Peter Hanson, Duluth, Minnesota.

#### Thursday morning

Donated by: Washington Milk Sanitarians Association  
 Won by: Everett Cole, Director of Biological Research Laboratory, Arvada, Colorado.  
 Donated by: South Dakota Association of Sanitarians  
 Won by: E. L. Rhodes, Birmingham, Alabama.  
 Donated by: Iowa Association of Milk Sanitarians  
 Won by: John J. Sheuring, Athens, Georgia.

### Food Session

Donated by: Idaho Sanitarians Association  
 Won by: Marion Billas, Davenport, Iowa.  
 Donated by: Iowa Association of Milk Sanitarians  
 Won by: Harry Goresline, Chicago, Illinois.

### Environmental Health

Donated by: Connecticut Association of Dairy & Food Sanitarians  
 Won by: John R. Pattillo, Richmond, Virginia.  
 Donated by: Iowa Association of Milk Sanitarians  
 Won by: James R. Holly, Burlington, Iowa

#### Thursday afternoon

Donated by: Kentucky Association of Milk & Food Sanitarians  
 Won by: Calvin Fisher, Omaha, Nebraska.  
 Donated by: Iowa Association of Milk Sanitarians  
 Won by: R. Burt Maxey, Lincoln, Nebraska.

## NEWS AND EVENTS

### SEC ANNOUNCES COURSE OFFERING

The Training Program of the Robert A. Taft Sanitary Engineering Center announces a training course on Determination of Antibiotic and Pesticide Residues in Dairy Products (72M) scheduled for presentation in Cincinnati, Ohio, October 9-13, 1961.

Applications or requests for information should be addressed to the Chief, Training Program, Robert A. Taft Sanitary Engineering Center, 4676 Columbia Parkway, Cincinnati 26, Ohio, or to a PHS Regional Office Director.

### EXPRESSES OPTIMISTIC OUTLOOK FOR DAIRY INDUSTRY

Our nation's milk supply will be more than adequate to meet the demands of an "exploding" U. S. population. This is the prediction Alfred M. Ghormley, President of Carnation Company, expressed to executives of the company's Grocery Products Marketing Organization, at a national conference at Carnation World Headquarters in Los Angeles.

In a declaration full of optimism for the future of the dairy industry, Mr. Ghormley said: "It is a

challenge to provide basic food requirements for 11,000 new customers every morning in the United States alone, but the country's dairy farmers are producing more and better milk from somewhat fewer cows ... and will continue to meet the demand, however high it may soar. Improved breeding, feeding and labor-saving methods make the greater production possible."

Carnation's president continued, "... new and improved equipment and processing methods have increased manufacturing efficiency and improved quality. And refinements in marketing techniques are keeping pace with production and manufacturing progress."

Mr. Ghormley added: "Moreover, our company, along with many others, and with many universities, is devoting unprecedented time and effort to research. New dairy products are constantly being developed and existing ones improved. The science of nutrition is progressing impressively.

"Milk and milk products today represent the finest value in food available to the public. Exciting progress in the area of food research will provide even greater nutritional advantages for tomorrow's consumers."

Asked about increased consumption of low-fat dairy products, the president of the major food firm commented: "Increased awareness of the 'waist-line problem' is encouraging the use of low-fat products. There is much discussion of the use of butterfat vs. other types of fat. The subject is controversial and there are eminent authorities on both sides of the issue. However, no one can gainsay that dairy products in all their varied forms remain 'nature's most perfect food.'"

### NEW CALIFORNIA RESTAURANT ACT

California has a new restaurant act, which becomes effective on September 15, 1961. This Act, Assembly Bill No. 264 which was signed into law by Governor Edmund G. Brown in May, strengthens and increases the scope of the old restaurant act in existence since 1947.

The definition of a restaurant in the new act includes the following, which were not included in the earlier law: public and private school cafeterias; in-plant feeding operations including labor camps; clubs, boarding houses and guest houses.

The act also specifically covers itinerant restaurants, vehicles and vending machines.

Other improvements include the requirements that (a) hot water be provided with hand washing facilities for employees, and (b) perishable foods (including foods served at buffets and smorgasbords) be refrigerated at or below 50 degrees Fahrenheit or held at temperatures above 140 degrees Fahrenheit.

The wording of the new act is also improved over that in the old, and is expected to eliminate confusion and misinterpretation of the law.

Passage of AB 264 culminates seven years of work by California State Health Department staff and others. In 1954 a canvass of local health departments indicated a need for an improved Restaurant Act and in 1955 and 1956 Department staff worked closely with the California Conference of Local Health Officers to develop one.

This bill was introduced into the 1957 legislature and was referred to the Assembly Public Health Interim Committee. Because of opposition to the proposed bill, a subcommittee of the Interim Committee appointed an advisory committee to develop a new law. This committee, chaired by Ralph L. Tarbett of the Department's Division of Environmental Sanitation included representatives of the restaurant industry, the culinary workers' unions, California Conference of Local Health Officers, and industrial caterers. Counsel was obtained from the Public Health Service, local directors of sanitation,

and the National Automatic Merchandising Association.

The present act, developed by this advisory committee and introduced by Assemblyman W. S. Grant from Long Beach, was strongly supported by the restaurant industry, the culinary union, local health departments and the California State Department of Public Health.

### NEW MICHIGAN LAW DEFINES SIZES OF MILK CONTAINERS

The Michigan Legislature recently enacted legislation setting forth what size milk containers are legal in the state. The milk law was amended and establishes the following as legal size containers for milk; 1 quart, pint, 10 ounce and half pint. Ruled out are the gallon, one and a half gallon and the one third quart. Wholesale milk for institutional cooking must be delivered in legal bottles or in metal cans of not less than three gallons capacity. The amendment also permits the use of single service paper containers or the use of other approved materials for milk. The enforcement of the amendment is vested in the State Department of Agriculture.

### KLENZADE PRODUCTS MERGED WITH ECONOMICS LABORATORY

An agreement to merge Economics Laboratory and Klenzade Products was recently announced. Klenzade will become a division of Economics.

The combined annual sales of both companies is more than thirty three million dollars. Terms call for each 15 shares of Klenzade common stock to be converted into one share of \$4.00 cumulative preferred stock and 4.42 shares of common stock of Economics Laboratory.

Economics Laboratory has plants in five states and Canada. Klenzade's plant operations are South Beloit, Illinois.

### CONNECTICUT RULES ON VENDING MACHINE LICENSING

Local municipalities in the state of Connecticut do not have authority to regulate or license vending machines, according to a recent formal ruling by the state attorney general.

Richard W. Funk, N A M A legislative counsel, reported that the opinion was given August 2, in a letter to Commissioner Attilio R. Frassinelli of the Connecticut Department of Consumer Protection — the agency charged with administering the statewide vending law.

"This opinion officially confirms the intent of the

Connecticut legislature when they passed the vending bill last June," Funk said.

The attorney general made the ruling after two municipalities asked whether they had the right to continue enforcing local vending machine regulations.

Louis P. Grossman, president of Connecticut Automatic Merchandising Council, said the local preemption clause of the Connecticut vending law (section 10-b) is of paramount importance because "local regulation could have seriously hampered vending operations in the state."

The attorney general's ruling followed several consultations between that office, the Department of Consumer Protection, members of the N A M A staff and officials of the Connecticut Automatic Merchandising Council.

### SECRETARY FREEMAN SUPPORTS NATIONAL MILK SANITATION ACT

At recent Congressional hearings on the proposed National Milk Sanitation Bill, Secretary of Agriculture Orville Freeman gave testimony favoring the Act. Secretary Freeman testified that: "After a long and careful study, it is our conclusion that the legislation will serve the purpose of providing maximum protection of the public health at the lowest possible cost to farmers and to the processors and distributors of milk, and thus to the consumers of milk as well. Therefore we urge its enactment into law."

The Secretary, testifying last week before the House Interstate Commerce Committee, stated that the primary concern of his Department was the economic effects of sanitation regulations. He said USDA did not have direct responsibility for administration of such regulations, and that the Department respected the competence and authority of the U. S. Public Health Service to establish and administer standards in this field. Mr. Freeman said that there is substantial reason to believe that both farmers and consumers are penalized by the multiplicity of local sanitation regulations and inspection requirements which are now enforced throughout the country. He also said he *felt that the proposed legislation would tend to upgrade the quality and purity of milk supplies which are not now produced in compliance with USPHS milk ordinance and code.*

The Secretary put into the record several pages of evidence supplied by the U. S. Public Health Service designed to show that the sanitation bill would more effectively protect the health of consumers and that many existing state and local regulations are administered in such a manner as to constitute barriers or obstructions to the free movement of milk.

### MILK INDUSTRY FOUNDATION ANNOUNCES CONVENTION PLANS

A cross sectional probe into the anatomy of the milk business with the Washington scene a strong influence will be the distinguishing characteristic of the 54th Annual Convention of the Milk Industry Foundation. To be held in Washington October 22-25, the meeting will feature technical discussions salted with presentations by top level speakers from government.

More than 1200 members of the fluid milk industry are expected to register at the Sheraton Park Hotel, Convention headquarters. Sixty speakers are slated to take part in the analysis of the 45 subjects on the agenda.

Although the program has not yet been completely nailed down, the successful format of joint general sessions with the International Association of Ice Cream Manufacturers, special technical sessions, and general meeting of the members is being followed. Technical sessions include sections on Plant, Milk Supplies, Sales and Advertising, Laboratory, Accounting, and Public Relations. The latter appears on the Milk Industry Foundation program for the first time. It will offer an exploration of broad public relations concepts followed by an investigation of methods that will enable individual milk companies to apply the basic principles to practical problems in their markets.

Strong emphasis is being given to labor relations and to sales programs. The work of the National Labor Relations Board and its relation to dairy industry and the factors that enter into the construction of a labor contract are two areas in the labor relations field that will be discussed.

Retail selling will come in for a long hard look. Of six talks scheduled for the Sales and Advertising Section, three deal with retail home delivery. Five-day-week delivery, non-dairy products on retail routes and the basic sales problem of customer and salesman meeting face to face are listed on the program.

### PENN STATE ANNOUNCES SERIES OF DAIRY MANUFACTURING SHORT COURSES

Four short courses in Dairy Manufacturing are being offered by The College of Agriculture, The Pennsylvania State University, in 1961-1962. This is the seventieth year Penn State has offered Dairy Manufacturing Short Courses.

Advance registration in the courses is most desirable. Each course has a minimum enrollment number. Failure to meet this number approximately two weeks before registration may mean the course be

canceled unnecessarily. A few of the courses also have a maximum with acceptance of students based upon order or receipt of applications.

The Bulk Milk Tank Weighers and Samplers short course is scheduled for September 25 to 29, 1961. It is designed to train milk tank truck drivers who efficiently collect milk from farmers with bulk milk tanks and be effective public relations men for their employers. Registration fee for Pennsylvanians is \$15; non-Pennsylvanians, \$20.

The Soft Ice Cream Short Course is scheduled for December 11 to 15, 1961. It is designed exclusively for those employed in the soft-serve frozen dessert business and the suppliers of mix and equipment for this type of operation. Registration fee for Pennsylvanians is \$15; non-Pennsylvanians, \$20.

The regular two week course on Ice Cream is scheduled for January 15 to 26, 1962. A wide variety of topics will be studied. Approximately twelve hours will be devoted to the principles involved in calculating ice cream mixes. Fourteen hours of laboratory practice will be given in the testing, processing, and freezing of ice cream mix. More than 30 different ice cream formulas will be used in evaluating the effects of variations in fat, serum solids, sweetener, stabilizer, emulsifier, and flavoring of the texture, body and flavor of frozen desserts. Registration fee for Pennsylvanians, \$25; non-Pennsylvanians, \$35.

Market Milk and Milk Supervision, March 19 to 31, 1962, is another of these courses. Subjects covered in lectures, discussions, and laboratory work include: composition and properties of milk, milk bacteriology, quality tests and methods, dairy farm inspection, milk and public health, food value of milk, lactometer and fat tests, standardization, pasteurization, thermophiles, thermoduric and colon organisms, separating, clarification, homogenization, cream, chocolate milk, buttermilk, cottage cheese, problems of distribution, milk economics, milk legislation, and milk control commissions. Considerable laboratory work is included. Registration fee for Pennsylvanians, \$25; for non-Pennsylvanians, \$35.

Any individual sixteen years of age or older is eligible to attend these courses. For more information concerning the courses, housing, meals, and application blanks, write to the Director of Short Courses, College of Agriculture, The Pennsylvania State University, University Park, Pennsylvania.

### **PUBLIC HEALTH SERVICES REPLACES DIVISION OF ENGINEERING SERVICES**

Establishment of a new Division of Environmental Engineering and Food Protection of the Public

Health Service has been announced by Surgeon General Luther L. Terry.

The new division, with Wesley E. Gilbertson as its chief, was created as a part of a Service-wide reorganization designed to strengthen and expand present environmental health programs, and to provide more assistance to State and local health and other agencies.

Functions now given the new division formerly were performed by the Division of Engineering Services, which has been abolished. These programs are concerned with basic problems in environmental health and sanitary engineering, primarily those of mounting concern to local agencies, particularly in urban centers. Included are the milk, food, and shellfish sanitation programs; the water supply, food service, waste disposal and general sanitation problems of interstate carriers; metropolitan planning and development, solid waste (refuse) disposal; and a variety of general sanitary engineering activities. In these areas, the division carries out and supports research, training, technical assistance, standards development, equipment review, program planning and promotion, and regulatory functions under the Interstate Quarantine Regulations.

### **PAPERS PRESENTED AT AFFILIATE ASSOCIATION MEETINGS**

**Editorial Note:** The following is a listing of subjects presented at recent meetings of Affiliate Associations. Copies of papers presented may be available through the Secretary of the respective Affiliate Associations.

#### **DAIRY FIELDMEN'S CONFERENCE**

THE PENNSYLVANIA STATE UNIVERSITY

University Park, Pa.

July 12, 13, 1961

- (Secretary: Homer Young, 202 Willett Road, Glenshaw, Pa.)  
*Dairy Industry Adjustments* - C. W. Pierce, Dept. Agric'l. Economics, Penn State Univ.  
*Quotas* - G. E. Brandow, Dept. Agric'l. Economics, Penn State University.  
*Interstate Shipments and National Milk Sanitation Act* - A. C. Dahlberg, Dept. Dairy & Food Science, Cornell University.  
*Penn State Mastitis and Antibiotic Studies* - J. F. Hokanson, Dept. Veterinary Science, Penn State University.  
*Field Observations on CMT and Herd Management* - S. B. Guss, Dept. Veterinary Science Ext., Penn State University.  
*Dry Lot Feeding and Clean Cows* - H. K. Johnston, Div. Milk Sanitation, Harrisburg, Pa.  
*Sewage Lagoons and Dairy Farm Wastes* - N. H. Wooding, Dept. Agric'l. Engineering, Penn State University.  
*Heating and Hot Water for the Milk House* - D. C. Lange, Penn Power & Light Co., Allentown, Pa.  
*What Extension Can Do for the Fieldman* - J. S. Taylor, Dept. Dairy Science Ext., Penn State University.  
*Forage vs. Grain Feeding* - E. M. Kesler, Dept. Dairy Science, Penn State University.

*Gauging and Testing of Farm Milk Tanks* - M. W. Jensen, Bureau of Standards, Washington, D. C.

*Bacterial Quality and Flavors of the Milk Supply from Farms* - H. V. Atherton, Dairy Husbandry Dept., Univ. of Vermont.

*Fats in the American Diet* - R. W. Shafer, Eastern Regional Mgr., National Dairy Council, New York, N. Y.

*Milk Sanitation Problems* - John Faulkner, USPHS, Washington, D. C.

*Observations on Milk Handling in the United States* - R. P. March, Dept. Dairy & Food Science, Cornell University.

WISCONSIN ASSOCIATION OF MILK AND FOOD SANITARIANS  
Seventeenth Annual Meeting

Elkhart Lake, Wisconsin

September 11-12, 1961

(Secretary: L. Wayne Brown, 421 Chemistry Bldg.,  
Madison 6, Wisconsin)

*The Shape of Things to Come* - Joe Larson, Sparta Brush Co., Sparta, Wisconsin.

*Mastitis Control, a Panel Report of Pilot Control Tests.*

*Research* - Dr. Clark W. Burch, Dept. of Veterinary Science, Univ. of Wisconsin.

*Education and Organization* - Dan G. Jindra, Lake to Lake Co-op., Kiel, Wisc.

*Practical Adaptation* - V. A. Thieleke, D.V.M., Sheboygan, Wisc.

*Producer Application* - Floyd Olson, Kiel, Wisconsin.

*New Developments in Pipe Line Cleaning* - Dr. Harold E. Calbert, Dept. of Dairy and Food Industries, Univ. of Wisconsin.

*Life Begins at 40 - Degrees Fahrenheit* - John Bard, Oscar Mayer and Co., Madison, Wisc.

*The Dairy Plant Fieldman and Public Relations* - Charles Hilt, Pet Milk Co., St. Louis, Missouri.

*Principles Involved in Some Recent Legislative Action* - Oscar Christianson, Wisconsin Creameries Ass'n., Madison, Wisc.

NEW YORK STATE ASSOCIATION OF MILK SANITARIANS  
AND

CORNELL DAIRY AND FOOD SCIENCE CONFERENCE

Albany, New York

September 25, 26, 27, 1961

(Secretary: R. P. March, 118 Stocking Hall, Cornell Univ.,  
Ithaca, N. Y.)

General Session

*Sanitation in the '60's* - Herman E. Hilleboe, M. D., Commissioner of N.Y.S. Dept. Health, Albany, N. Y.

*Meeting Industry's Challenges* - Dr. I. A. Gould, Chairman Dept. of Dairy Tech., Ohio State Univ., Columbus, Ohio.

*See the U. S. First* - Prof. R. P. March, Cornell Univ., Ithaca, N. Y.

*The Single Service Dispenser Container - on Land, at Sea, and in the Home* - H. F. Cox, Jr., Consultant in Dairy Equipment & Packaging, Syracuse, N. Y.

*Two Price (Quota) Plans for Paying Milk Producers* - Dr. Leland Spencer, Dept. of Agric'l. Economics, Cornell Univ., Ithaca, N. Y.

*Milking, Machines and Mastitis* - Dr. G. H. Schmidt, Dept. of Animal Husbandry, Cornell Univ., Ithaca, N. Y.

*When is a Quart a Quart?* - Dr. B. L. Herrington, Cornell Univ., Ithaca, N. Y.

*The National Milk Sanitation Bill and Its Probable Influence on Northeastern Milk Markets* - Dr. A. C. Dahlberg, Cornell Univ., Ithaca, N. Y.

*Potentials of Concentrated and Sterile Milks* - Dr. G. M. Trout, Dept. of Food Science, Michigan State Univ., East Lansing, Mich.

Fieldmen's Session

*Panel Discussion: F. R. Brady, Sealtest Foods, Norwich, N. Y.*  
- Moderator

*Qualifications of Fieldmen* - P. R. Jackson, Ass'n. of Oranges and Maplewood, East Orange, N. J.

*Are We Really Inspecting Farms?* - D. H. Race, Dairymen's League Coop. Ass'n., Inc., Syracuse, N. Y.

*Problems of the Fieldman* - Dr. J. C. White, Cornell Univ., Ithaca, N. Y.

*Heat Exchangers for Bulk Milk Coolers* - Prof. G. C. Perry, Dept. of Agric'l. Engineering, Cornell Univ., Ithaca, N. Y.

*Quality of Bulk Tank Milk* - Dr. H. V. Atherton, Dept. of Animal and Dairy Husbandry, Univ. of Vermont, Burlington, Vermont.

Food Session

*The Uniform Food, Drug and Cosmetic Act FDA Consumer Consultant Program* - A. E. Abrahamson, Bureau of Sanitary Inspections, N.Y.C. Dept. of Health, New York, N. Y.

*Consumer Response to Mislabeling of Foods, Drugs and Cosmetics* - Mrs. Carla S. Williams, Bureau of Program Planning and Appraisal, Food and Drug Admin., Dept. Health, Education and Welfare, Washington, D. C.

*False Advertising of Food and Drugs* - A. G. Seidman, N. Y. Office, Federal Trade Commission, New York, N. Y.

*The Administrative Aspects of Food Sanitation* - Prof. L. E. Bond, School of Hotel Administration, Cornell Univ., Ithaca, N. Y.

Laboratory Session

*The Isolation of Staphylococci from Food and Their Significance in Public Health* - Dr. Gerald Silverman, Dept. of Nutrition, Food Science and Technology, Massachusetts Institute of Technology, Cambridge, Mass.

*Cryoscopy of Milk - Past, Present and Future* - Charles Paley and Bernard Tzall, Certified Laboratories, Inc., New York, N. Y.

*Determining the Freezing Point of Milk* - Dr. W. F. Shipe, Cornell Univ., Ithaca, N. Y.

*The Phosphatase Test for Control of Pasteurized Milk* - Dr. R. A. Jung, Div. of Laboratories and Research, N. Y. State Dept. of Health, Albany, N. Y.

General Session

*Panel Discussion: Automation in Fluid Milk Plants* - R. E. Stork, Dairymen's League Coop. Ass'n., Inc., New York, N. Y.  
- Moderator

*A Camera's View of Some Automated Plants* - Prof. R. P. March, Cornell Univ., Ithaca, N. Y.

*Sanitation in an Automated Milk Plant* - W. H. Bertsche, Erie County Health Dept., Buffalo, N. Y.

*Why Automate?* - L. F. Baker, Frontier Federated Co-op., Inc., Buffalo, N. Y.

*Panel Discussion: The Detection of Mastitic Milk in a Producer's Blended Supply* - Dr. R. W. Metzger, Pres., National Mastitis Council, Syracuse, N. Y. - Moderator.

*Value from the Public Health Standpoint* - Paul Corash, Milk Div., Bureau of Food and Drugs, NYC Dept. of Health, New York, N. Y.

*Value from the Veterinary Society Standpoint* - Dr. C. J. Haller, N. Y. State Veterinary Medical Society, Avon, N. Y.

*Field Experiences with the Program* - Dr. H. C. Temple, Mastitis Control Program, Kingston, N. Y.



## PHS SETS UP OFFICE OF RESOURCE DEVELOPMENT

The establishment of an Office of Resource Development (Environmental Health) within the Bureau of State Services was announced recently, as another step in the reorganization of the Public Health Service to provide, among other purposes, a more coordinated, integrated, and intensive focus upon the public health problems created by environmental hazards stemming primarily from air and water pollution, exposure to radiation, and occupational and industrial developments.

The Office of Resource Development, which is headed by Frank A. Butrico, is a staff position to Dr. Robert J. Anderson, Assistant Surgeon General and Deputy Chief of the Bureau of State Services.

In an effort to stimulate greater research efforts by the life and engineering sciences in the many aspects of environmental health hazards, a research and training grants branch has been established in a number of Divisions within the bureau, as follows: Division of Air Pollution, Chief, Research and Training Grants Branch, Dr. Maurice Bender; Division of Environmental Engineering and Food Protection, Chief, Research Grants Branch, Harold B. Robinson; Division of Occupational Health, Acting Research Grants Administrator, Dr. W. Clark Cooper; Division of Radiological Health, Chief Office of Extramural Grants, Dr. Paul F. Hahn; and Division of Water Supply and Pollution Control, Chief, Research and Training Grants Branch, Harry A. Faber.

## 3-A COMMITTEES TO CONSIDER 10 STANDARDS AT FALL MEETING

Ten impending standards, or amendments to existing standards, will be on the agenda when the committees that formulate 3-A Sanitary Standards for Dairy Equipment gather for their next regular semi-annual meeting. About 100 engineers, processing technologists, milk and food sanitarians and federal officials will attend the sessions at the Marriott Key Bridge Motor Hotel in Washington, D. C., October 3-5, 1961.

Three of the ten standards are expected to be completed by the committees at this fall's meeting. They are the Rubber Standards, the Ice Cream Freezer Standards, and the Fillers and Sealers for Single Service Containers Standards.

Seven others to be considered are: Plastic Standards, Automatic Venders Standards, Air-under-pressure Standards, Batch Pasteurizer Standards, Separators and Clarifiers Standards, Amendment to Fittings Standards, and Amendment to Pump Standards.

The 3-A committees normally meet twice a year to develop voluntary standards for items of dairy equipment and supply. Once a standard is proposed, or an amendment to an existing standard is proposed, a task group representing manufacturers of the equipment is formed to prepare a first draft of a tentative standard. This draft is subsequently considered by committees of processors and of state and local sanitarians. Additionally, the Milk and Food Program of the U.S. Department of Health, Education and Welfare, participates in a consulting capacity. Only after all differences between the four groups have been settled is an official 3-A Sanitary Standards issued.

Generally speaking, equipment which is built in conformity to 3-A standards is acceptable to public health and regulatory officials in all parts of the country.

Assistant Surgeon General of the United States Robert Anderson will address a banquet of the 3-A conferees on October 4.

A tour to the Agricultural Research Center at Beltsville, Md., October 2 has been arranged for participants who may arrive early for the sessions, and additionally, an October 5 tour to the National Bureau of Standards and laboratories at the U.S. Department of Agriculture will be available to those interested.

## LETTER TO THE EDITOR\*

### "TAKE IT FROM US! WE LIVE HERE."

Just a year ago we wrote you about rumors spreading north of the Rio Grande concerning anti-American feelings and a trend toward communism in Mexico.

We U. S. citizens who live in Mexico and know the situation first-hand want to bring you up to date, because the rumors — and they are vicious rumors — have been intensified this year.

First, we must admit there have been some minor incidents, but mostly so insignificant they were hardly noticed down here. These incidents, the malicious rumor-spreading are truly the work of paid agents of certain foreign powers, who exaggerated them out of all proportion for publicity purposes abroad.

These agitators are making every effort to disrupt the friendship between Mexico and the U. S., to frighten tourists out of coming here, and to alarm investors. Their efforts will surely be repeated since this is a long-term campaign to cause a break between our two countries. And if you believe them, you are playing into the hands of the communists. You will be doing just what they desire.

\*Editor's note: We are printing this letter in the interest of good neighborly relations and because of the message it carries for all of us.

\*The Comité Norteamericano Pro-México, A. C., or "Operation Amigos", is a non-profit organization of United States citizens resident in Mexico. It represents over 100 of the more important United States businessmen operating in Mexico, and was formed in 1954 for the purpose of promoting better understanding between the peoples of our two countries.

We need Mexico's friendship, which is traditional. We share a border over 1600 miles long, without forts or guns, where friendship and mutual respect have been the byword for generations. Mexico is one of the USA's best customers. Our exports to and imports from Mexico are extremely important to both nations. In turn, Mexico needs our friendship and understanding, she needs our tourists, who spend about 650 millions of dollars here every year.

If the communists succeed in doing what they are trying to do, we both lose. Mexico will be hard hit economically and standards of living will drop. You well know that a country with great poverty and unemployment could be a pushover for the communists.

So let's get the picture straight:

Mexico today is a good friend. It is not communist. The government of President Adolfo Lopez Mateos is striking back at the communists, has gone out of its way to make clear its friendship for the U. S. in an address delivered on June 7, 1961, in which he pulled no punches, the President said: "...my government will repress the excesses of demagogic persons or groups of the right or of the left who, working outside the framework of the Constitution, would attempt to dismember the life of the nation and violate constitutional order..."

And just last week former President Abelardo Rodriguez declared: "Mexico denounces foreign doctrines being propagated on this continent which endanger the liberty of free peoples."

At no time have the Mexican people been other than friendly. Nowhere will you find such courtesy, friendliness and goodwill. There is a remote possibility you may see a "Cuba si, Yankees no" sign, but you may also see them in Washington, New York, San Antonio. Here they are the work of professional agitators, deliberately trying to create bad feelings, acting without the support or sympathy of the Mexican people or their government.

We know. We live here, and are close to developments. We have our homes and businesses in Mexico. We attend the churches of our choice, our children go to the schools we like.

The Comité, without prejudice or ulterior motives, by its vote of confidence reaffirms its belief that a cordial and lasting bond of friendship exists between our two countries.

And we ask you not to let the communists hoodwink you. The next time you see a headline shrieking "Anti-American Riot in Mexico, read the full story. It will probably say that only a few individuals were involved, and that they were led by known agitators, that no Americans were molested, that the government stepped in and broke it up.

Such a "riot" definitely does not represent "anti-American" feeling on the part of the people themselves. We who live here may not even hear about it until we read it in our hometown papers from the States.

Visit Mexico! See for yourselves what this wonderful country has to offer. Let's all help keep Mexico where it belongs, one of the free and democratic nations of the world.

Sincerely yours,

COMITE NORTEAMERICANO PRO-MEXICO, A. C.\*

Leo M. Roy, President

## QUESTIONS AND ANSWERS

**Note: Questions of technical nature may be submitted to the Editorial Office of the Journal. A Question in your mind may be in the minds of many others. Send in your questions and we will attempt to answer them.**

### QUESTION:

"Can you suggest what variety of coloring agents are used in the ("butter?") flecks in buttermilk? Are all of these the same as those used in cheese or butter? What would be the way of estimating the amount (approximately) of such color in one quart of buttermilk with any given quantity of butter or cheese, differentiating, of course, whether cheese compared is light colored (as Swiss) or more highly colored (as cheddar and similar deep colored cheeses)?"

### ANSWER:

Under present day conditions, the vast majority of the buttermilk on the market is not from natural sources, but rather from cultured skim milk. The apparent color flecks in some buttermilk are attained by the addition of butter granules to the cultured skim milk. The contrast between the high color of the butter granules added and the color of the skim milk makes it appear as though the products contained color droplets. The amount of butter granules added will vary according to the individual manufacturers and, in some cases, will run in the neighborhood of 1.5% fat test in the finished product. If the manufacturer is putting out a buttermilk from natural sources, the explanation of the color flecks is the same and refers to the small particles of butter which have carried over from the butter making operation and the color will be a reflection of the amount of butter left in the buttermilk after churning.

Two general types of coloring agents could be found in the flecks of butter in buttermilk. The basic natural color of these flecks would be the carotenoids, in particular, B-carotene which constitutes the greater portion of the carotenoids usually present. (Incidentally, it is this B-carotene which provides most of the vitamin A value in butter, since this particular material is a provitamin A.) If additional color was added prior to churning, it would probably be annatto, the simplest carotenoid.

There are several methods for determining carotene in cheese and butter. (See Higuchi, Price and Peterson, *JOURNAL OF DAIRY SCIENCE* 29: 157, 1946, and Berl and Peterson *JOURNAL OF NUTRITION* 26: 527-538, 1943).

The determination of annatto is covered in the A.O.A.C. methods, Ninth Edition, page 206.

If a separation is sought between annatto, B-carotene and the other carotenoids, chromatographic techniques will have to be used. If color is the only concern, then the assay can be based upon a comparison against a standard amount of B-carotene. If vitamin A value of the B-carotene is to be determined, then the B-carotene fraction must be separated out by chromatographic techniques.

Annatto coloring also is commonly used to color Cheddar and similar cheeses. This is a water-soluble extract. The annatto used to color butter, although from the same source, is a fat-soluble preparation.

It should be possible to compare the color of butter granules in buttermilk with the color of butter or cheese by using the procedure devised by Reinart and Nesbitt at the University of Manitoba (Proc. 14th Internat. Dairy Congr. Vol. 2: 359, 1956).

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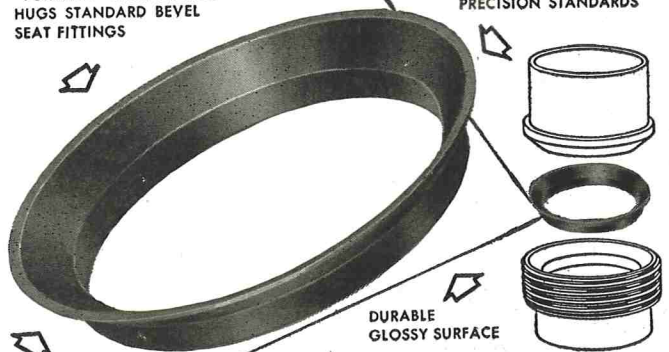
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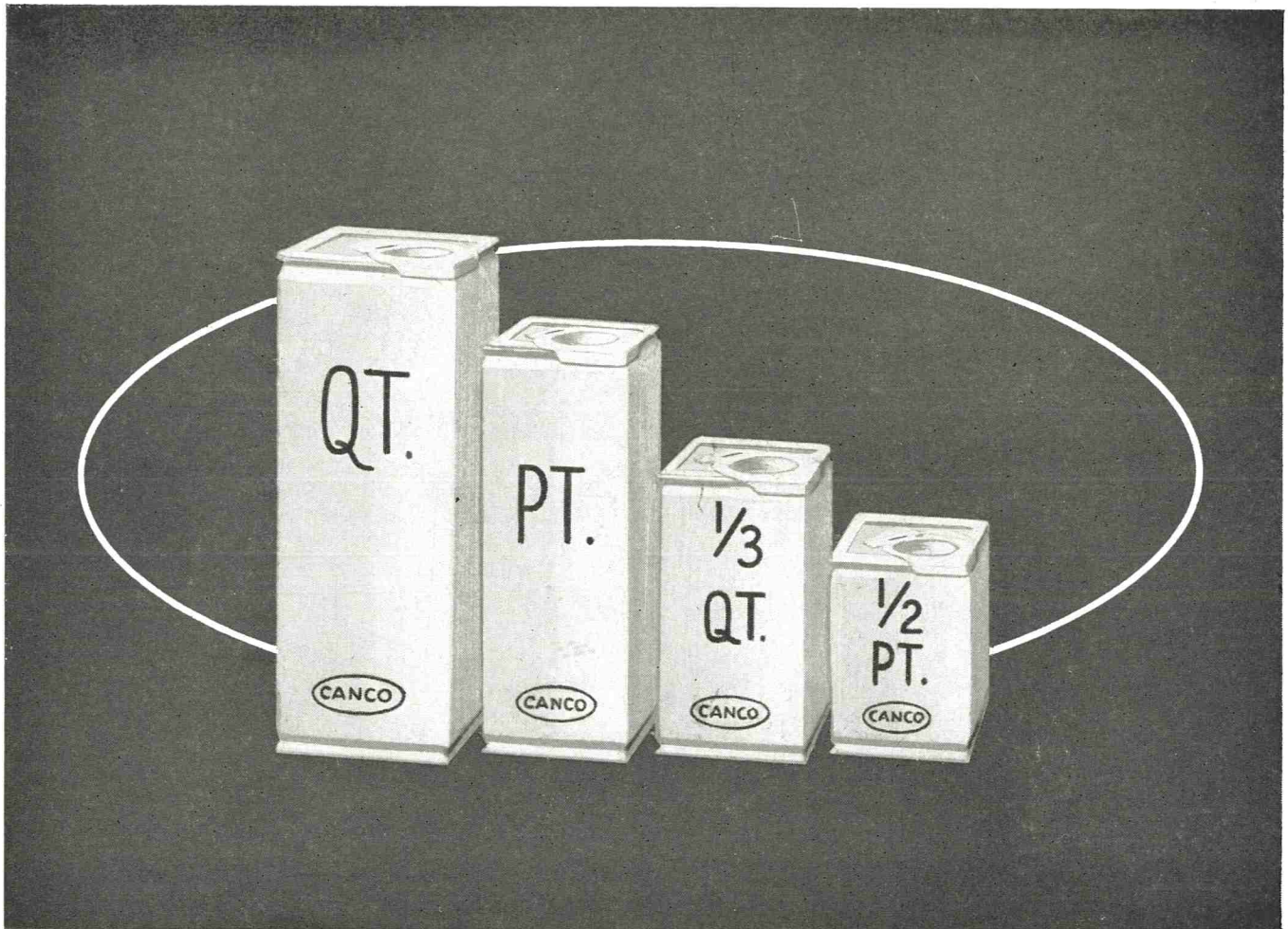
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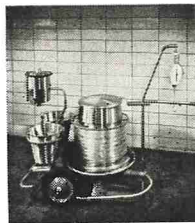
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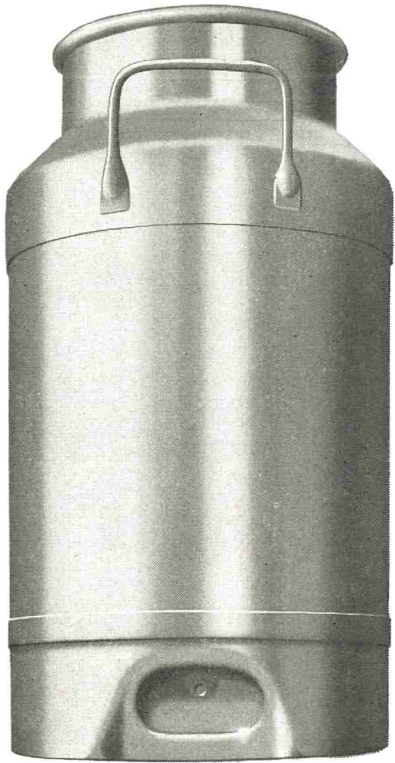
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## United States Steel

## EPIDEMIC LITTERBUG!

"Fall is our favorite season . . . and this year we're lucky enough to be taking our vacation at just that time — after the crowds have gone home!"

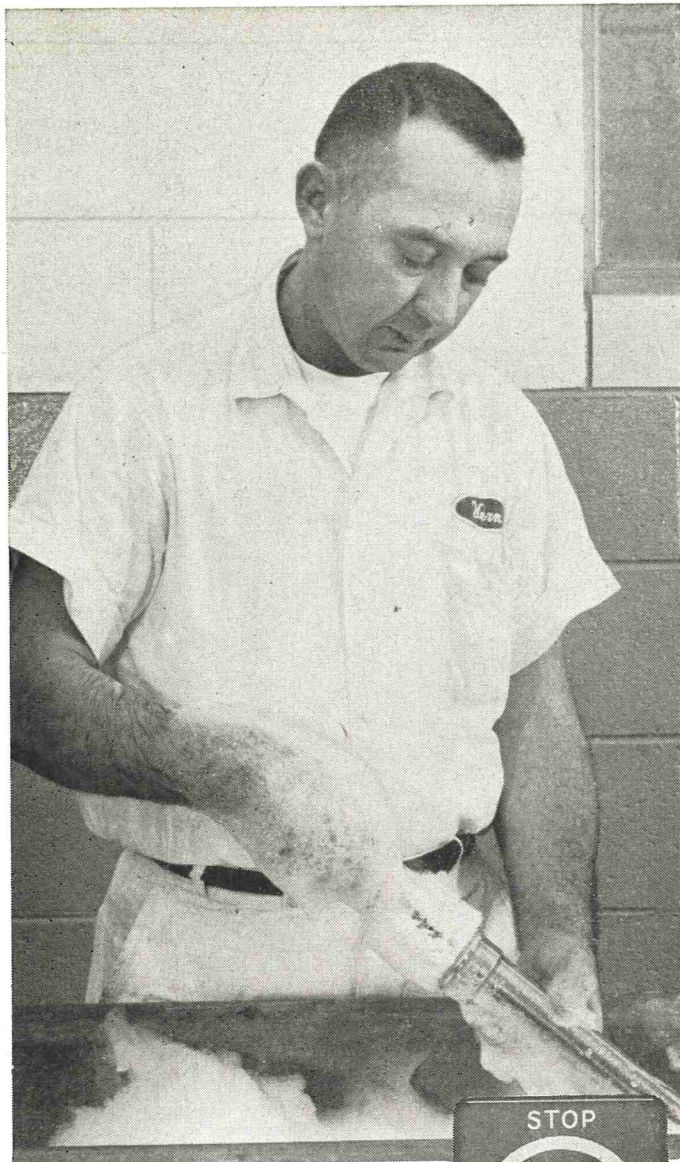
The young couple was eagerly anticipating a two-week holiday in a national park away from the clutter and confusion of city life. "We're nature-happy," the woman continued. "We're looking forward to camping out, fishing and just sitting back and enjoying the beauty of nature."

But exactly how lucky is this pair of "nature lovers"? And how fortunate are all the others who plan outdoor vacations this fall? Not as lucky as they may think, according to Keep America Beautiful, Inc., the national public service organization for the prevention of litter.

Although the tourist season officially ends on Labor Day, the "Litterbug Epidemic" seems to gain momentum for one final fling. And many an autumn vacationer is disheartened to find that this insidious blight has seeped into his favorite camping site. The summer crowds may have departed, but they've left a trail behind them.

It takes no medical expert to detect this perilous epidemic. The symptoms are obvious. Empty containers of all kinds, sandwich wrappings, fruit skins and even cast-off items of clothing indicate immediately that a school of litterbugs has been there. Unfortunately, the litterbug doesn't limit himself to camping areas, but also makes himself at home on the highways as he invades beaches, parks and national monuments. With the growing popularity of water sports, he's made his presence felt on waterways as well. Frequently, vacationers discover that a favorite fishing stream or hunting preserve has been "posted" or closed because of litterers.

Curiously enough, the "Litterbug Epidemic" hits many who would never be expected to fall prey to it. Often the same public-spirited citizen who is meticulously neat in his home and would never toss a scrap of paper into his yard is the one who thinks nothing of throwing a crumpled cigarette package on the street or of leaving a bag of garbage in a recreation area. Another piece of litter is added and still another, and soon the nation's sightseeing areas are a dumping grounds, an eyesore and a menace to the whole community!



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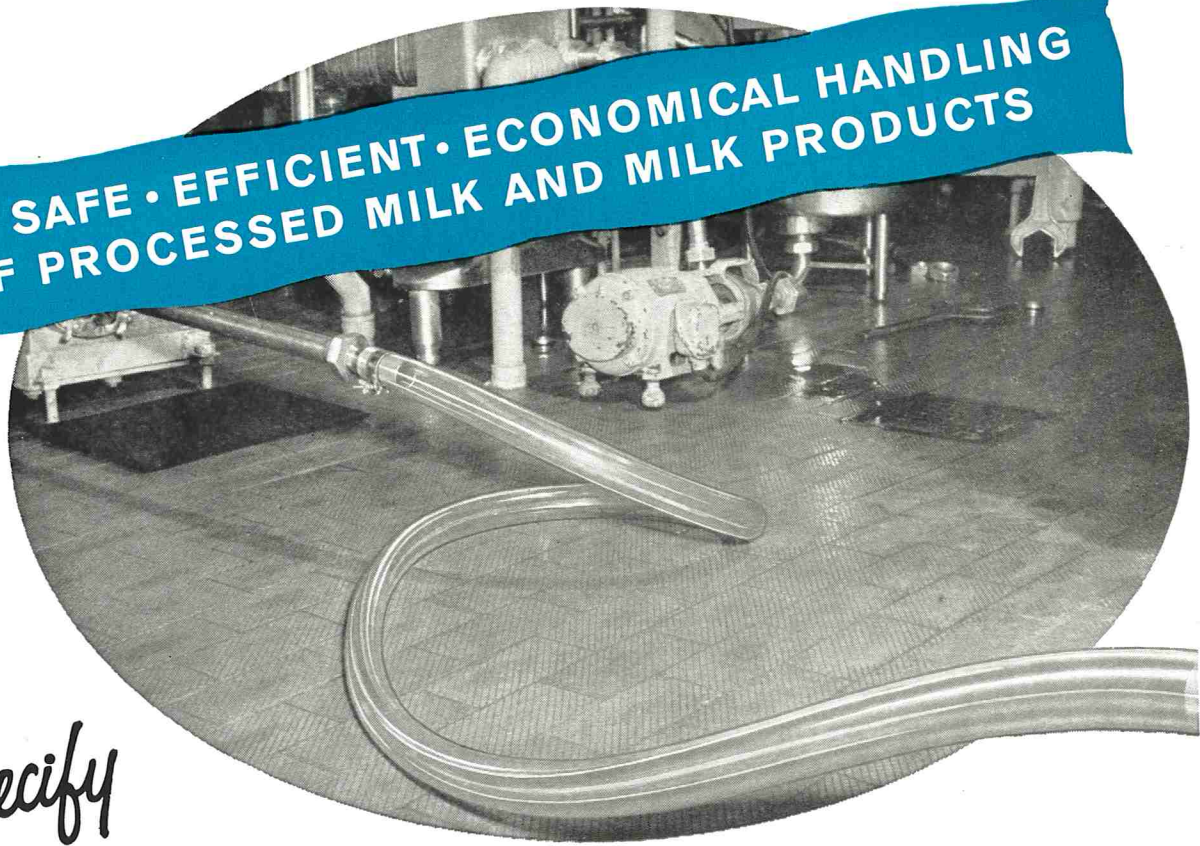
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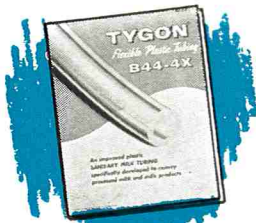
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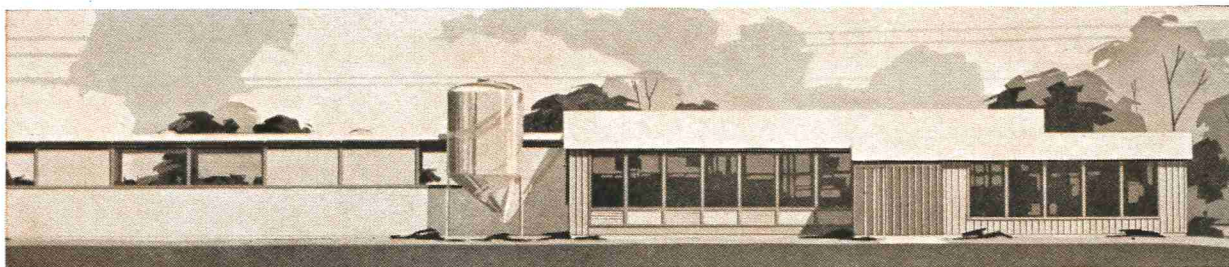
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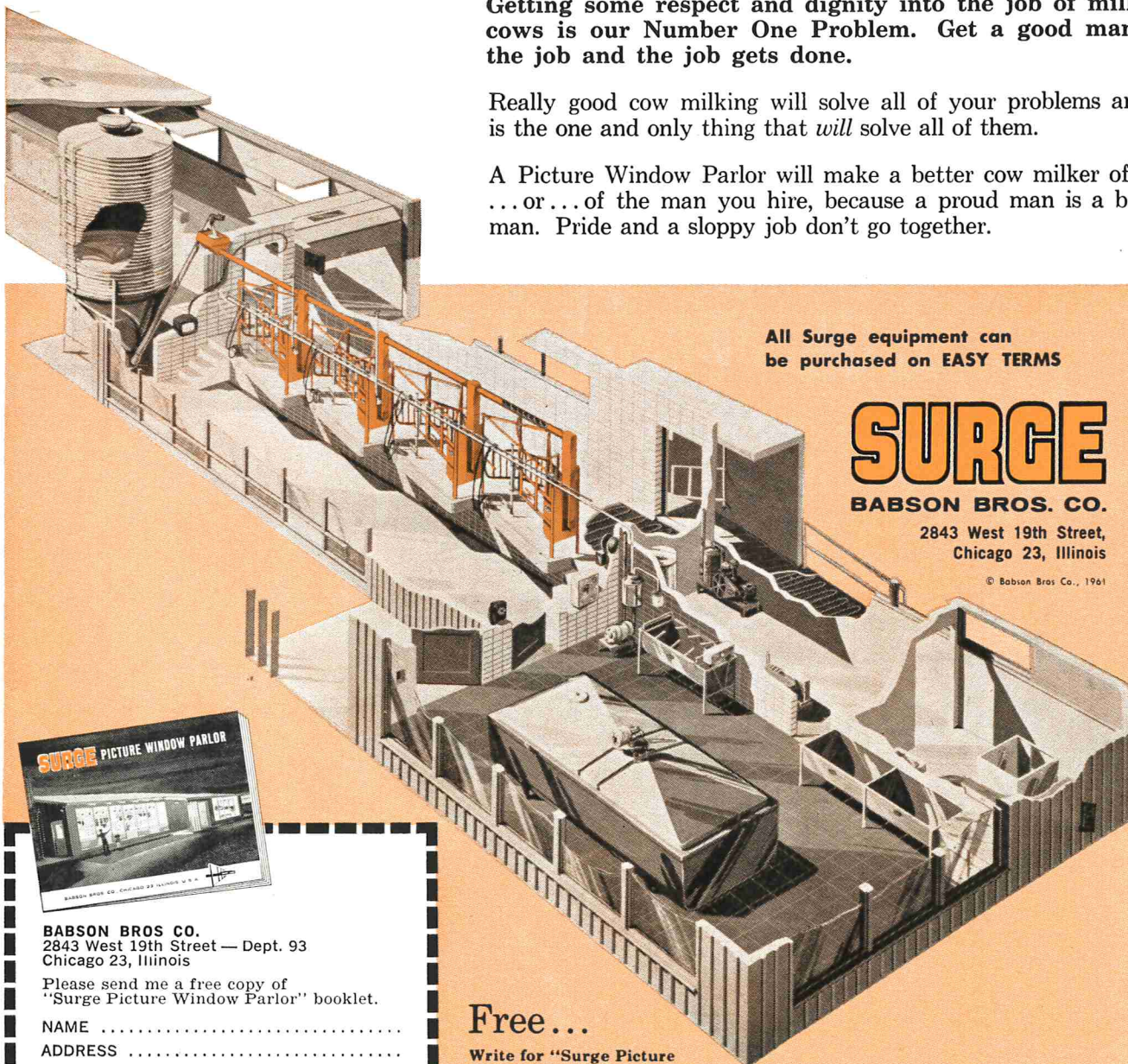
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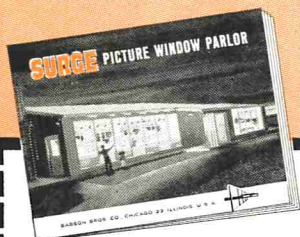
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