TWENTY YEARS OF PROGRESS IN DEVELOPMENT OF EFFECTIVE FIELD WORK IN THE EVAPORATED MILK INDUSTRY

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This paper will record some of the highlights of the Sanitary Standards program of the evaporated milk industry over the past twenty years, with special reference to the work of fieldmen in the industry. Since it is historical in nature, the material will be presented in chronological order. While each activity will be recorded for a specific year as the approximate time in which it gained major importance, many of these activities have actually been in effect over a period of many years.

EARLY DEVELOPMENTS

The Sanitary Standards program of the evaporated milk industry spans roughly the same period of time as the history of the Journal of Milk and Food Technology and its predecessor the Journal Milk Technology. Twenty years ago, at the time of the origin of the Journal, each evaporated milk company had its own milk quality improvement program. However, there was no coordination of these programs on an industry basis, just as there exists today a lack of uniformity and coordination of the milk quality work of regulatory officials of many cities and states.

In 1937 and 1938 various company officials recognized the need for a uniform quality control program throughout the evaporated milk industry. Each company saw the need of a central administration in order to have a uniform approach for the entire industry in the 30 states in which evaporated milk was produced.

During these years a Sanitary Standards Code was formulated to serve as a basis and guide for all future work. This Code was developed with the help and advice of prominent regulatory officials and other experts in the field. The Code was designed to be a practical and effective means of quality control and sanitation for all phases of evaporated milk production from farm to finished product. It is a dynamic document in that it is under continuous review for any changes needed so that it will best serve this purpose. It has not only fulfilled this purpose, but has served as a model Code for the dairy products industry and has been accepted by regulatory officials at all levels.

In 1939 the Code was voluntarily accepted by the entire evaporated milk industry as a basis for quality and sanitation work of each company. It has continued to serve in this capacity to the date.

In 1940 an organization was established in the Evaporated Milk Association to administer the Code under the supervision of the Sanitary Standards Committee of the industry. This Committee, which is composed of policy making officials of various companies, has continued to function throughout the history of the program. One of the reasons for the success of the work is that it has had the attention and supervision of top management of the companies. This applies not only to the broad industry program, but to the handling of individual plant problems, recommendations and reports within each company.

An early job in 1940 was to set up a uniform system of platform testing, quality records and rejection of unacceptable milk as established by the Code. This uniform testing and record procedure at all plants has served throughout the program as the basis for milk quality improvement and field work.

In 1941 the emphasis was on effective field work at every plant. The industry early recognized that the central figure in milk quality control is the plant fieldman who must educate and sell the dairyman on all aspects of quality milk production. In contrast to the official sanitarian who makes inspections and issues directions or orders, the fieldman must sell a complete program of efficient production of quality milk. From this date the training program has been aimed at helping the fieldman do this important work.

In 1942 two points of special significance to fieldmen were given attention. The first of these was building up the importance of the fieldman not only in his own estimation, but in that of plant management and the dairyman. In some areas there had been a tendency to look upon the fieldman simply as a milk solicitor. With the coming of the Sanitary Standards program, the scope of his activities and responsibilities was greatly broadened.

Then it was necessary to sell the fieldman on the industry wide program as a practical and effective approach to the problem. This gives recognition to the definition of selling as the transfer of a conviction from the mind of one person to the mind of another. A fieldman who believes in the program and believes the farmer will benefit by it is in a position to sell his ideas, provided he is armed with necessary training.
information and skills. This has been demonstrated for many years by hundreds of fieldmen in the evaporated milk industry.

During the war years of 1943 to 1954 the Sanitary Standards work was continued. Tremendous quantities of evaporated milk were milk packed for the armed forces and lend-lease as well as for the civilian population. The quality work was coordinated with the inspection activities of the Army Veterinary Corps and the U. S. Department of Agriculture which gave full acceptance to the Sanitary Standards Code and program.

**Expansion of Personnel Training Programs**

In 1946 the training of fieldmen was expanded through area field conferences and training schools. Originally these were largely in the nature of lectures and reports. However, experience rapidly pointed to group discussions, use of questions and answers, and staged fieldman-farmer interviews as helpful training procedures.

These conferences have spread to annual fieldmen's conferences sponsored by agricultural colleges. Fieldmen and supervisors of evaporated milk companies and members of the Sanitary Standards staff have been called on for important roles in these conferences. They have also served prominently in the development of the program for the state associations of milk sanitarians, and as officers of these organizations.

The year 1947 brought an expansion of the direct training work at plants by members of the Sanitary Standards staff. From this time until the present date, essentially every plant and receiving station has been visited at least once every year by a member of the industry staff. This calls for spending two to four days at each unit in checking on the progress of all phases of the program, including a survey of dairy farms with the individual fieldmen. The latter is for the purpose of observing farm conditions, and the work being done by the fieldman and to determine the accuracy of his work and reports when working alone. Constructive recommendations are made to the fieldman on how he can improve the effectiveness of his work. These recommendations are also incorporated in the report to the company official covering all phases of the program at the particular plant. This individual attention to the progress and problems at each plant, and the work of the fieldmen, plus detailed reports and recommendations to company officials, have made major contributions to the success of the program.

**Milking Equipment Sanitation Stressed**

From the start, milking machines had been recognized as a major problem in milk sanitation. The year 1948 saw expanded effort to solve this problem. For improvement in sanitary design and construction, steps were taken to develop 3A Sanitary Standards for milking machines. After numerous conferences and considerable research work this Standard was finally approved by the 3A Committee at their latest meeting on May 13-16, 1957.

In view of the diverse opinions among regulatory officials and others on how the dairymen should clean his milking machine, it was considered wise to develop specific recommendations on care of milking machines. These recommendations were based on a simplified cleaning procedure, with flush-washing and lye solution storage. Results over the years support these recommendations, as measured by a cleanliness of the machines, protection of milk of quality, and acceptance by the dairymen. Some of these observations were recorded in a paper on "Milking Machine Sanitation" in the December, 1950 issue of the *Butter, Cheese and Milk Products Journal*.

The years 1949 and 1950 brought increased interest in the problem of milkstone on dairy farm utensils. This problem was aggravated by misinformation and a lack of information as to its real cause throughout the dairy industry. A widely held opinion among personnel of dairy schools and regulatory agencies was that a major cause of milkstone is a hot water pre-rinse on soiled equipment before it is washed. This was also frequently given by fieldmen as an explanation to dairymen.

Because of a serious doubt as to the basis for this explanation, laboratory and farm experiments have been conducted on this problem. In no case have these experiments pointed to a hot water pre-rinse on utensils as a significant cause of milkstone, with the water at temperatures used on dairy farms, and where a reasonable job of brushing the equipment is carried out.

**Dissemination and Utilization of Results of Field Service Effort**

In 1951 and 1952 a great deal of effort was made to organize fundamental information into usable form for the fieldmen so that they could better interpret it to farmers. This was particularly true of bacteriology and its application to milk quality and dairy farm sanitation. A comprehensive list of questions was used in area field conferences to promote discussion by fieldmen and to bring out the proper interpretations and applications of problems in dairy bacteriology. By request of the Editor these questions and answers were published in the March 10, 1951 issue of Hoards Dairyman for education of dairy
farmer readers under the title "Why All the Fuss About Bacteria."

In 1953 a significant step was taken to determine whether the Code and program had been kept in tune with advanced thinking on milk production and sanitation. An extensive survey was conducted among publishers in the field, as well as a wide variety of regulatory, educational and industry leaders who are interested in milk production and sanitation, to determine their opinion on the proper approach to many of the problems faced by the dairy industry. The survey gained a high degree of interest, and the results were published in this Journal (April, 1954-pp 132-134), the Journal of Dairy Science (November 1954, pp 1399-1400) and Public Health News of the New Jersey State Department of Health (January 1955, pp 5-8).

In 1954 considerable emphasis was placed on the importance of questions in the farm call, and the fieldman’s bringing the farmer actively into the discussion of problems and their solution. Some work had been done on this previously, but from 1954 to the present time it has been a major feature of the effective fieldman-farmer interview.

Perhaps it would be well to mention here a few observations on effective techniques in selling ideas and milk quality to dairymen. First the fieldman must be thoroughly sold himself, and he must have the information and tools, including adequate records on the quality of milk shipped by the farmer. Then he must bring the farmer into the problem and make him a part of the solution. Field work requires a two-way discussion with the dairyman, not simply giving directions. The first reaction of nearly everyone to a suggestion for change is negative. However, when men participate in problem solving they help remove the roadblocks of their personal reactions. Asking people to apply their intelligence and ingenuity to decisions and problems, inspires and stimulates them, and this applies to field work. It is somewhat like the evolution of employee supervision from "sell them" to "tell them" and finally to the present day method of "consult them."

Throughout the program there has been an occasional problem of a fieldman having the opinion that it is a difficult and complex job to keep dairy utensils clean. This is a handicap to such individuals in selling a practical procedure to farmers. A similar attitude has been observed in some regulatory agencies. Therefore, in 1955 and 1956 laboratory and farm experiments were assigned to fieldmen in cleaning farm equipment by methods that varied rather widely in details and thoroughness. These experiments were successful in convincing the fieldmen that it is relatively easy and simple to keep dairy farm utensils clean provided a reasonably thorough system of washing is established and is followed by the farmer after every milking. It is necessary to stress to dairymen that the procedure should be followed after the evening as well as the morning milking. Some official sanitarians, fieldmen and farmers tend to overlook this point until its importance is brought to their attention.

In 1956 an important step was taken to improve the value of reports to company officials on the progress of the program, and recommendations on individual plants and receiving stations. This is a comprehensive summary sheet which gives the results of observations by the Sanitary Standards staff at the particular plant for four successive years on all phases of the program. This sheet also gives a comparison of the results at the individual plant with the industry averages in the same area. This summary sheet is in addition to the detailed reports on each phase of the program. It is particularly valuable to busy company officials because it gives at a glance the progress of the plant and the fieldman and a comparison with industry averages.

In 1957 the evaporated milk industry and the Sanitary Standards staff look with pride on the accomplishments of the past 20 years. Yet the period is considered as a prologue to even greater progress in the future.