Arizona, October 6, 1954.

F. Regular cleaning of production areas.

G. Daily cleaning of product zone areas in contact with product while wet.

H. Pans and racks cleaned periodically to remove thin layers of burned on grease.

I. Baking pans stored on clean trucks and inverted when not in use.

The above represent only a few of the conditions which must be controlled through a sanitation program. As our products vary, so do the needs for sanitation. Sanitation is especially important in the production of those products which can develop food poisoning organisms.

The need for sanitation in the bakery is great and no one will ever develop a magic formula for producing a sanitary plant. If we concede that hard work is the basic ingredient and if we accept the necessary hard work, we can properly apply elbow grease and, as a result, have a plant that is entirely sanitary.

### THE BAKERY SANITARIAN

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Since the enactment of the Food and Drug Act of 1938, great progress has been made in the sanitary standards of the baking industry. We have departed from the old idea that a food plant must be kept clean because the law requires that we do so. The Baking Industry recognizes that it pays to keep a plant clean. We have a responsibility to protect the purity and quality of the foods we make for human consumption. We have departed from the occasional clean up campaign. We recognize a sanitary bakery is a year round job.

In order to satisfactorily clean a bakery and keep it in a sanitary condition, a well organized and effective sanitary program must be established. This requires that management be familiar with the basic principles of sanitation. It must have sufficient interest to provide adequate personnel for doing the job. To carry out this program you must have a trained sanitation crew who are familiar with the proper use of cleaning equipment and materials. A recognition that competent supervision and full appreciation of the need of such are without a doubt the most important factors in a good sanitation program. The effectiveness of a sanitation department is only as strong as the individual in charge of the program and the degree of authority given to him.

The bakery sanitarian, to do an effective job, must be responsible only to management. There are many reasons for this. I believe the most important is the difference of opinion within an organization as to what constitutes sanitation. If he is subordinate to the superintendent, you can well appreciate that his ideas and suggestions will get lost before they reach the top.

Sanitation today is very different from that practiced some years ago. Production men, with their beginnings established in the so-called 'old days,' find it difficult to bring their thinking into line with the present day ideas of sanitation. Your bakery sanitarian must have the following requirements: he must have leadership qualities; he must also possess some technical knowledge of cleaning materials, and know the functional properties of ingredients in various insecticides and fumigants; he must have knowledge of the problems of production operations, equipment design and building construction; and he should be able to recognize the common insects that infest the bakery.

The planning and supervision of the following activities is the responsibility of the sanitarian:

1. Inspection of the plant
2. Cleaning of the plant
3. Proper spraying of the plant for insect control
4. Fumigation of specific equipment for insect control
5. Establishment of a rodent control program

You probably cannot find a man within your organization already having all of the above qualifications or familiar with the above functions. However, you can in all probability find a man on your payroll that can be taught the knowledge of each and all of these. In many parts of the country there are short courses in the practice of sanitation. Your sanitarian should be permitted to take advantage of these. There is also in the field of sanitation a group of highly trained consultants who are available for a nominal fee to serve you in your training program and to give you the outsiders' point of view.

Generally speaking, however, my remarks on the *bakery sanitarian* are confined to the bakers own in-plant sanitarian and not that of a specialized man having broad educational background in theory and practice of sanitation.

In selecting this sanitarian it is best not to take a production worker who has been working on the processing line for a considerable number of years. Such a
A man has been accustomed to the present way of doing things and all too frequently resists changes. As stated earlier, knowledge of each sanitation operation and leadership qualities are the most important attributes for the sanitarian to possess. These are necessary for the administration of a good sanitation program within a plant.

A bakery sanitarian must be able to train others to do an efficient and effective job in properly cleaning every piece of equipment in every department in the bakery. He cannot possibly do all the work himself, consequently, he must encourage those under his supervision to take pride in maintaining a sanitary plant. His function is to establish the proper level of cleanliness and constantly to follow up to determine that the job is properly done and the schedules maintained. In this regard it is very helpful to organize a sanitation committee. This committee may consist of the sanitarian, the general manager, superintendent and chief engineer and possibly rotating foremen. This committee should plan the plant's program. It would especially be responsible for the establishment of better cooperation among personnel in maintaining a sanitary plant.

In order to do an effective cleaning job, an individual must be supplied with the proper cleaning supplies and equipment. He must know what to use and why. The use of improper detergents may result in waste of time. The excessive use of an insecticide will result in a waste of money.

Let us now turn briefly to some of the overall in-plant functions of your sanitarian and his assistants, keeping in mind at all times that sanitary conditions are hidden. For the remainder of our discussion I will confine myself to a few of the direct sources of contamination of bakery products.

With reference to insects, the principle offenders are the flour beetles, silver fishies, roaches, flies, Indian meal moths and Mediterranean flour moths. To control these properly all ingredients and materials brought into the bakery must be inspected. In this respect, the ingredient we are most concerned with is flour. Every car of flour must be inspected before it is unloaded. If insects are found on the outside of the bags, the infestation without a doubt was picked up in transit, the flour having been loaded in an improperly cleaned car. Such a car must be fumigated with methyl bromide, the bags thoroughly brushed and reloaded into a clean car.

The next step is sifting the contents of the bags using either a 30 mesh wire screen or a 9 XX silk which will retain the adult insects or larvae. If any insects are found inside the bag, the flour must be rejected. It is not fit for human consumption.

Flour must be stored on skids 10 inches above the floor if possible in a clean, well ventilated storage area. Sufficient space should be allowed around the stacks for ventilation and application of insecticides.

Only an orderly storage room can be kept clean. Every bag or box containing supplies should be classified and be accessible for regular inspection and be used in the order of receipt.

The use of compressed air to clean such places as cracks in storage areas and many other parts of a bakery is definitely objectionable. The cracks must be sealed so no possible source of food is available. The movement of dust and flour from one spot to another by either blowing or brushing is very poor practice. Only a vacuum cleaner should be used for removing dust.

All noticeable dust and dirt must be removed on the outside of bags before the flour skid is hauled to the dump bin.

The next area that needs regular cleaning is the flour handling equipment. This is a direct source of contamination for bakery products. Flour that is conveyed through infested equipment will carry along insects, insect fragments and excreta. Flour handling equipment must be absolutely cleaned of all flour. This should be done preferably every two weeks. For this purpose a vacuum cleaner must be used to remove the flour. Cleaning the flour handling equipment should begin with the flour dump bin and continue on through the various parts of the equipment including the flour hoppers over the mixers. All housing of flour handling equipment must have sufficient openings to allow for access to the equipment and for complete removal of the flour. The reason for this is that fumigants will not effectively penetrate beyond an inch into the flour.

After the flour handling equipment is completely cleaned of flour, the outside crevices and corners throughout the equipment should be sprayed with insecticide. The interior of the system should be thoroughly fumigated with a mixture of ethylene dichloride and carbon tetrachloride.

There are many other possible sources of direct contamination; for example, ingredient containers, dusting boxes where starch is not used such as those found at the ronder, overhead proofer and moulder. No source should be overlooked and a regular schedule of cleaning should be maintained at all times. A plant schedule should be established which will permit cleaning by area, giving priority to jobs needing the most attention. A frequency chart must be followed. Good housekeeping rules must be maintained. The accumulation of dust on floors, in equipment, on walls, pipelines, etc. are conducive to insect infestation. Equipment coming in contact with the product should be cleaned daily immediately following the shutdown.

From the mixing room on through the dough room, make up department, proofing boxes, bread coolers, wrapping and shipping department, good housekeeping must be practiced. All dirt, dust and damp areas must be eliminated if possible. Wherever possible all cracks or crevices must be sealed.

Your sanitarian must be aware of the fact that the shipping department can be a serious source of infestation. Returnable shipping boxes must be cleaned outside the shipping department. Too frequently they are returned containing garbage, roaches and rodents.

The best way to control rodents is to keep them out. Your sanitarian must periodically inspect foundation walls and windows for any possible openings that will permit the entrance of rodents. Windows that are to be opened must have tight fitting screens. The Engineering Department has the
THE BAKERY SANITARIAN

Sanitation is a day by day task and not an occasional house cleaning job. You have a responsibility to provide the consuming public with a wholesome unadulterated product. Select your sanitarian with that thought in mind and then give him the tools and cooperation he needs.

REPORT OF COMMITTEE ON RECOGNITION AND AWARDS — 1954*

The Committee on Recognition and Awards has the responsibility of selecting two nominees for awards each year. The Citation Award is given to a member of the Association who has contributed outstanding service to the Association over a period of years.

The Sanitarians Award was first given at Minneapolis in 1952. Five candidates were nominated that year. In 1953, eight candidates were nominated, and in 1954, the list had grown to twelve.

Early in 1952, Past-President Ken Weckel, interested five manufacturers and distributors of sanitation chemicals in sponsoring an annual award of $1,000.00 and a framed certificate; the award to be given to a sanitarian who has made meritorious contribution in the field of milk and food sanitation for the public welfare of a county or municipality in the United States or Canada. One of the eligibility requirements states that the nominee be employed by a county or municipality as a professional milk or food sanitarian. The sponsors are the Diversey Corporation, Pennsylvania Salt Manufacturing Company, Klenzade Products, Inc., Oakite Products, Inc., and the Ohio Mathieson Chemical Corporation.

No change has been made in the rules of eligibility, nominations, and selection of the recipient since the origination of the Award in 1952. Each year in November an announcement is made in the Journal of Milk and Food Technology to the effect that the Executive-Secre-

*Presented at the 41st Annual Meeting of the International Association of Milk and Food Sanitarians, Inc., Atlantic City, New Jersey, October 21-23, 1954.