THE PROTECTIVE SCREENING PROGRAM FOR CANNED FOODS

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The National Canners Association (NCA) was founded primarily to improve and maintain consumer acceptance of canned foods. It was with this basic idea that the Association was officially organized in 1907, one year after the passage of the first Federal Food Act. Various divisions of the Association followed the establishment of the first Research Laboratory in Washington, D. C., in 1913. A second laboratory was opened in Seattle in 1919, and a third in San Francisco in 1926 (now Berkeley, California).

The first step in achieving the objective of the Association was to insure universal wholesomeness of canned foods. In order to carry out this aim a number of programs dealing with many phases of the problem have been maintained. One of the most important of these is the educational program designed to develop consciousness among all canners of their responsibility in connection with the canning and selling of only wholesome food. Recognizing, as NCA does, the rights and economic freedoms of the individual and his desire for personal gain, the approach has been one of convincing the individual canner that his long-range personal welfare can be achieved only by providing his consumers with wholesome food.

The continued evolution among canners of this enlightened self interest requires that the NCA keep its program constantly and currently adjusted to all problems as they arise. The pesticide, food additive, and color additive amendments to the Food and Drug Act have presented such problems. Adjustments have been and will continue to be made in the NCA program.

The Protective Screen Program against chemical contamination was instituted and is being carried on by the canner with his growers' cooperation to insure that a wholesome product is delivered to the canning plant. After this, the canner, by controlled processing in hermetically sealed containers (can or glass), further insures the consumer that wholesomeness is maintained until the food is used.

A Program to Prevent Contamination of the Raw Product

Following is an outline of the NCA policy concerning grower use of pesticide chemicals.

Canners processing crops that have been treated, or produced on land that has been treated, with any pesticide chemical—including insecticides, fungicides, rodenticides, herbicides, fumigants, defoliants, nematicides, desiccants, and plant growth regulators—should be absolutely certain that such chemical has been accepted for registration by the U. S. Department of Agriculture under the Federal Insecticide, Fungicide, and Rodenticide Act.

Each canner should ascertain from his State Experiment Station which pesticide chemicals among those accepted for registration under the Federal Act are best suited for use on crops which he processes and then make his selections from these. It should be the responsibility of canners to see that their growers use these registered pesticide chemicals in accordance with the recommendations of the U. S. Department of Agriculture, State Agricultural Experiment Stations, and the Extension Service.

Each canner should make sufficient periodic contacts with his growers to assure himself that if these pesticide chemicals are used, they are used properly. Canners should maintain detailed records showing how pesticide chemicals have been used in the production of crops for processing.

Each canner purchasing crops under contract should obtain written statements from his growers that they will use only registered pesticide chemicals, in accordance with recommended procedures. Canners purchasing canning crops on the open market should obtain written statements from the growers that they used only registered pesticide chemicals, in accordance with recommended procedures.

Canners should participate in the development of an educational program on the proper use of pesticide chemicals in cooperation with their State Agricultural Experiment Station, the Extension Service, producer organization, and other interested groups.

The NCA seeks to promote thorough understanding of the conditions under which pesticide chemicals may be legally used, through personal contacts with canners and by appearances at canners' meetings. Cooperation of the USDA Extension Service, of the Land-Grant Colleges and Experiment Stations, the farm organizations, farm editors and rural newspapers, and canning trade journals, is used to disseminate complete and accurate information on the subject.

A Program to Prevent the Processing of Contaminated Raw Products

Canners should inspect all incoming raw products,
and provide for rejection of any that are contaminated with objectionable chemicals which subsequent washing and peeling operations will not surely and completely remove. As has been indicated, the ideal way for control here is to maintain sufficient supervision over field practices in order to know the history of each grower's product. In any case, a system of routine testing and product control is necessary for complete safety. This is not always an easy thing to do and special attention is being given in the NCA Laboratories to the development for industry use of more simple analytical methods for detection of chemical additives. Some tests, such as the fly bioassay procedure, have already been developed and are available for routine work. To pursue the matter further, however, a review is being made of analytical methods employed by FDA, USDA, pesticide manufacturers and recognized commercial laboratories for pesticides or other additives likely to be a problem to the canning industry. Where no simple, accurate procedures exist, research will be undertaken for their development.

Canners without facilities for testing products should have analyses made by a reliable commercial laboratory at frequent enough intervals to assure safety. While the program of the NCA Laboratories does not permit running routine control tests, periodic duplicate check samples for accuracy may be run.

Adequate product washing is a vital step in canning, and many objectionable substances can be removed in this way. The NCA Laboratories have done and are doing extensive research along this line. Canners should routinely review their operations to be sure the product is receiving an adequate wash. Laboratory personnel are available to advise and assist in establishing the best washing procedures for each product.

PROTECTING THE PRODUCT FROM CONTAMINATION IN THE CANNERY

While the first emphasis of this problem has been on pesticides, many other substances are of concern within the processing plant. Some of these materials include detergents for product washing or cleaning, any substances transmitted from a container to its contents, flavoring, and processing ingredients for products which receive pre-canning treatment with chemicals. Some of these materials may be generally recognized as safe or have had prior sanction, others not. The problem is to determine their status under the Food Additives Amendment based on present or intended use. The Color Additive Amendment has added to the in-plant problem with its broad definition of color, the Delaney cancer clause and no prior sanction or grandfather clause.

The canner must be sure of the status of the additives or colors he uses because the responsibility cannot be shifted to ingredient suppliers or others, although guarantees may be obtained to emphasize the duties of all concerned. The canner can check his ingredients against the "generally recognized as safe" (GRAS) lists which FDA has published. It must be remembered that these lists are not all-inclusive and the absence of any material from them does not necessarily mean that the substance is not "generally recognized as safe". When a canner wishes to use any unlisted additive or wants to use one for a purpose other than that approved, or has any question regarding additives or colors, he is urged to check with NCA for guidance or assistance.

Canners are encouraged to keep accurate records on the products, the ingredients, and any factors which may affect the product, and should relate these to can codes. The latter should be changed at frequent intervals so that, if necessary, any lot can be segregated as to source of raw material, ingredients used, or other operating variable. Packers should use only ingredients of food grade and purity, obtained from reliable suppliers, because substances in addition to the desired ingredient could be added from this source.

The NCA Laboratories and legal counsel will continue to work for individual member-canners or groups of canners with FDA on specific additive or color problems, and will assist industry in getting FDA clearance for chemicals which are considered unavoidable or necessary in the production of good quality canned foods. Additions to the list of additives generally recognized as safe will be called to the attention of the industry as new materials are considered by FDA. As one means of keeping industry informed, opportunities are sought to explain the food additives question to canners' groups throughout the country.

The Laboratories will keep in touch with other agencies, such as National Research Council committees, university food technology departments, etc., on the additives problem so that all interested groups can work toward a common goal. NCA members will be assisted in locating sources of information on previous usage or testing of additives.

In addition to examining occasional duplicate samples for canners as a check on the accuracy of their company analysts, the NCA Laboratories will help in any emergency. With a limited staff it is, of course, necessary to avoid routine control work if the entire industry is to be given adequate service of this kind.

In-plant control of additives extends into the sanitation program of the Association. A continual program of assistance and advice on good house keeping and sanitation is carried on. This activity is based
One area of the sanitation program not directly related to additives that may be of interest is the sanitary design of canning equipment, which is fundamental to cleaning and maintenance. The NCA Committee on Sanitation of Canning Equipment is composed of staff members, representatives of canning companies and a liaison member representing the Canning Machinery and Supplies Association. Recommendations have been published on horizontal belt conveyors, drum type blanchers and tomato or fruit washers. The material on post-cooling can handling equipment is ready for publication. Other equipment is under consideration at the present time and further work in this field will be continued.

The aim of the National Canners Association is to assure consumers of canned foods of a “clean wholesome product packed in a clean plant.”

**NEWS AND EVENTS**

**REPORT OF THE SUBCOMMITTEE ON MILK AND FOOD**

**Problem Areas and Goals**

Industry, enforcement agencies, and the public need the assistance of a national organization primarily concerned with health problems, which can work and be the focal point of leadership in a lattice of other governmental and private organizations to provide the inspiration, information, guidelines and resources necessary for food protection. The Public Health Service has an obligation to meet this need in such a way that it will engender the confidence and cooperation of all concerned. It must avoid, on the one hand, a fragmentary approach which cannot give adequate and timely answers to new problems being evolved or, on the other hand, an overly comprehensive program that tends to duplicate and infringe on the primary responsibilities of other organizations. Particular attention should be given to health-related problems which require the participation of a public agency for the protection of the consumer's interest and to those areas of environmental health where food indirectly may play a decisive role in human welfare.

The proposed overall mission is to improve and protect the public health and welfare as they may be affected by foods and beverages, alone or in combination with other environmental stresses. The primary objectives include:

1. Detection of microbiological, chemical, and nutritional hazards which have been and will continue to be introduced as the result of changes in food production, procurement, processing, packaging, marketing, and serving.
2. Reappraisal of food-protection measures now in use as they are affected by changes in technology and food-handling practices.
3. Surveillance of developments in science and technology as they may potentially affect food protection.
4. Development and maintenance of a basic-data program on trends of public health hazards associated with food production, processing, and distribution.
5. Investigation and development of methods to prevent or reduce health-hazard problems confronting the food industries.
6. Application of the accumulated knowledge to improve public health practice.

Major problem areas, which are expected to be of continuing importance during the next decade or longer, are noted below, together with comments on their significance and some suggested approaches to their solution.

**Microbiological Contaminants of Foods**

The notable successes of the past 50 years in con-