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SANITARIANS MANUAL

STANDARD
OPERATING PROCEDURES
for Institutions and Agencies



STATE OF NEW JERSEY

N.J. DEPARTMENT OF INSTITUTIONS AND AGENCIES, *Division of Mental*
Health and Hospitals, *Environmental*
Sanitation Committee

STANDARD OPERATING PROCEDURES FOR
INSTITUTIONS AND AGENCIES

FOOD SERVICE SANITATION,

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copy 2

STANDARD OPERATING PROCEDURES
FOR INSTITUTIONS AND AGENCIES SANITARIANS

March 25, 1965

FOOD SERVICE SANITATION

The storage, preparation, refrigeration and serving of food and beverages in institutions is of special importance because of the large number of persons involved as workers and because of the need for special care in carrying out proper techniques for handling foods.

The supervision of food handling in all its aspects at institutions is the responsibility of the Food Service Supervisor. The sanitarian, however, because of his training and background of experience in public health and sanitation, can provide consultation, guidance, and technical knowledge in the specialized field of disease prevention and sanitation. Specifically, he can render service by encouraging proper personal hygiene by all food handlers, he can advise with and support the Food Service Supervisor in the problems of maintaining replacement and installation of food equipment, he can advise relative to the time and temperature relationships that are important in protecting foods from the growth of pathogens and toxins, he can evaluate the sanitary conditions maintained by the personnel throughout the kitchen and commissary including the washing of dishes and utensils, care and use of the refrigerators and the prevention of conditions favorable to the harborage of insects and rodents.

The following outline will serve as a guide to the sanitarian in carrying out his duties:

1. CONSTRUCTION AND CLEANING OF ESTABLISHMENT:

a. Floors:

- (1) The floors of all rooms where food or drink is stored, prepared, processed, served or subject to spillage shall be constructed of impervious, smooth, easily cleanable material and kept in good repair.
- (2) All floors shall be maintained in a clean condition and shall be cleaned by a dustless method utilizing treated dust mops, wet mopping or vacuum cleaners equipped with microstat type filters.
- (3) Except for emergency cleaning, floors shall be cleaned during the time when the least amount of food preparation and serving is taking place.
- (4) If floor drains are used, the floor shall be graded to drain. Drains shall be provided with traps and constructed so as to minimize clogging.
- (5) The junction of floors and walls shall be coved wherever possible. Any new construction or extensive remodeling shall include the installation of the cove junction.

b. Walls:

The walls of all rooms shall be kept clean and in good repair. Walls in kitchens, processing and utensil washing rooms, and areas subject to splash

shall be constructed of a smooth washable material to the highest level reached by splash. Walls of rooms where food or drink is prepared or stored shall be painted or finished in light color.

c. Ceilings:

The ceilings of all rooms should be tight and smooth and shall be kept clean and in good repair. Ceilings of rooms where food or drink is prepared or stored shall be painted or finished in light color. Areas adjacent to ceilings, vents or other areas where grease and dirt tend to accumulate should be of a smooth washable material.

2. DOORS AND WINDOWS:

All doors, windows and other openings to the outside shall be effectively protected against the entrance of flies by the use of screens, fans, air curtains or other acceptable methods. Doors shall be self-closing, tight fitting and shall open outward whenever possible.

3. PROCESSES SEGREGATED; PROPER LIGHT AND VENTILATION:

The various processes within the establishment should be segregated in order to make contamination from one process to another unlikely. Further protection against accidental contamination should be accomplished by establishing and maintaining good traffic patterns to minimize unnecessary personnel moving from their own process area into others. The sanitarian should act in an advisory capacity and make recommendations to this end.

All rooms within the establishment shall be lighted adequately to efficiently carry out the operations therein. Twenty foot candles shall be provided on all working surfaces and ten foot candles on all other surfaces and equipment in areas where food or drink is prepared and utensils are washed. All other areas shall be lighted so as to at least have five foot candles at a distance of 30 inches from the floor. Consideration shall be given to adequate light for the cleaning of all parts of all rooms, including dining and storage rooms.

All rooms within the establishment shall be adequately ventilated so as to maintain the same reasonably free from smoke, vapors, obnoxious odors, excessive heat and condensation. The use of stove hoods and exhaust systems is encouraged and new or remodeled installations shall be equipped with disposable or easily cleanable filters on all exhaust systems where heavy accumulations of dirt and grease are likely to occur. Exhaust fans and filters shall be kept clean. Compliance with the foregoing is essential as maintenance and fire prevention measures.

Consideration should be given to adequate ventilation during the winter season when windows and doors are not normally open.

4. CONSTRUCTION AND MAINTENANCE OF UTENSILS AND EQUIPMENT:

All multi-use utensils and equipment shall be constructed so as to be easily cleanable and shall be accessible for cleaning and inspection. Surfaces and joints shall be smooth.

All food contact surfaces shall be of a not readily corrodible, non-toxic material. No lead, cadmium, zinc or other potentially hazardous material shall be used. Soft solder used for jointing shall be of such formation as to be non-toxic under use conditions; shall contain at least 50% tin; shall contain no more lead than is necessary under good solder manufacturing practice; and shall, consistant with good industrial practice in the refining of its constituent elements, be free of cadmium, antimony, bismuth, and other toxic materials.

Hard Solder (Silver Solder) shall be of such formation as to be non-toxic under use conditions; shall be corrosion resistant; and shall, consistant with good industrial practice in the refining of its constituent elements, be free of cadmium, antimony, bismuth and other toxic materials.

V - type threads shall be prohibited in food contact areas. Square corners in food contact areas shall be eliminated wherever possible. Stationary equipment shall be self-draining.

All equipment shall meet the requirements of the National Sanitation Foundation or be of equivalent construction.

All utensils and equipment shall be kept in good repair and free from chips, cracks, corrosion, open seams and any other defect that would not be easily cleanable, nor accessible for cleaning. Dishes, utensils, containers, and equipment shall be of a type not adversely affected by high temperature of water, detergents, chlorine and soaps. Under conditions of heavy usage, it shall maintain a hard, smooth and easily cleanable surface. Cracked or chipped cups, saucers and dishes shall be discarded.

All counters, table tops and other serving areas equipment shall be constructed so as to be easily cleanable and free from cracks and open seams where food particles and other contamination might accumulate.

5. CLEANING OF UTENSILS AND EQUIPMENT:

Adequate pre-rinsing, sufficient soap or detergent, and sufficient volumes of hot and cold water shall render the utensils and equipment clean to sight and touch, either by the use of mechanical or manual washing procedures.

All equipment including counters, tables, display cases, steam tables, shelves, storage racks, meat blocks, stove hoods and exhaust systems shall be kept clean and free from dust, dirt and any other contaminating material. Meat grinder parts shall be stored in refrigerator after cleaning and sanitizing.

All tablecloths, napkins, towels, wiping cloths, uniforms, aprons, etc., shall be kept clean and stored in a clean, dry place, preferably in special cabinets or drawers designated for this use.

All multi-use utensils and equipment used in food preparations shall be thoroughly cleaned immediately after each use.

All multi-use eating and drinking utensils shall be thoroughly cleaned after each use and kept free of stains.

All single service items such as paper or plastic cartons, cups, plates, straws and container covers shall be disposed of in a covered container.

No metal polishes containing cyanide or other poisonous cleaner shall be used.

MANUAL WASHING OF UTENSILS:

1. All food shall be scraped from utensils and utensils then rinsed.
2. Utensils shall be scrubbed in hot water containing a detergent at a temperature of 110°F - 120°F.
3. Utensils shall then be rinsed in water 110°F - 120°F. to remove detergent.
4. Utensils shall then be immersed in clean, hot water 180°F for one minute, or in a lukewarm chemical rinse (not less than 75°F also 50 p.p.m. available chlorine or 12.5 p.p.m. available iodine with pH not higher than 5.0) for two minutes following manufacturer's directions on label.
5. An accurate thermometer shall be used and a permanent thermometer shall be located in the final rinse sink, to note the 180°F. required.
6. All utensils shall be air dried. Towels shall not be used.
7. Sinks shall be cleaned after use.

DISHWASHING MACHINES:

1. Food particles shall be removed from utensils and rinsed.
2. Utensils shall be placed in rack, allowing ample space for water spray. All cups and saucers or plates, of one type, will be placed on one rack.
3. The wash temperature shall be 140°F - 160°F or higher and the final rinse temperature shall be maintained at least 180°F with boosters and recirculation provided where necessary. All temperature gauges shall be in operating condition and carefully checked. If water is not hot enough for rinse, use chemical; submerge utensils for two minutes. Detergent dispenser recommended. Water pressure should range between 15-25 p.s.i. in lines and should be at least 10 p.s.i. at rinse nozzles, with gauge cock.
4. All utensils shall be air dried, towels shall not be used.
5. Interior and exterior of machine shall be thoroughly cleaned, water jets will be cleaned, strainers shall be removed and cleaned, curtains shall be cleaned after each meal. Doors shall be left open, after use, to aid in ventilation and to prevent odor formation.

6. FACILITIES:

Adequate facilities shall be provided for the proper washing, cleaning and bactericidal treatment of utensils and equipment. Running hot and cold water under pressure shall be provided in sufficient volume and with sufficient taps for the necessary washing and cleaning procedures.

Sufficient quantities of hot water, soap, detergent and/or other cleaning materials shall be available. Steam, hot water and/or other bactericides shall be available for the proper bactericidal treatment of utensils and equipment. Suitable sinks, pot sinks, glass washers, mechanical washers, etc. shall be available for proper cleaning of utensils. An adequate number of baskets or trays for mechanical washers shall be provided to keep up with the peak operations.

Plumbing shall be installed and repairs made in accordance with the N.J. State Plumbing Code. Special attention should be given to checking for back siphonage and cross connections. Hazards should be corrected as soon after locating as possible. Future plans for plumbing in toilet rooms should take into consideration wall hung toilet bowls and urinals so that the floor can be easily cleaned. Grease traps, if used, should be cleaned at least monthly, more frequently if individual circumstance warrants.

7. HANDLING AND STORAGE OF EQUIPMENT AND UTENSILS:

All utensils, and equipment, after washing and sanitization, shall be stored in such a manner as to be protected from contamination. Such precautions shall be taken as inverting glasses and cups, storing silverware in such a manner as to present the handles to the user. Sugar dispensers that preclude insertion of spoons should be provided.

Cleaned utensils and equipment shall be stored at a sufficient distance from the floor and in a clean, dry place so as to be protected from splash, drip, dust, dirt, or other contamination and shall be covered if practical. Racks, trays, and shelves shall be of a non-corrodible material.

Handling of utensils and equipment by the food contact surfaces shall be kept at a minimum.

Single service items purchased in sanitary cartons shall be stored in a clean, dry place in their original cartons and protected from contamination. Cartons should be opened in such a manner as to allow the lid to reclose and protect the remainder of the articles in the carton. After removal from the carton, these items shall be handled in a sanitary manner. (Where paper utensils are indicated as necessary, they shall be a material that will not disintegrate when liquid foods are used.)

Ice cream dippers and scoops shall be stored in running water between uses.

8. FOOD TEMPERATURES:

Potentially hazardous foods shall be stored at 45°F. or below until processed or served. To promote rapid cooling, sandwich and salad mixtures

and chopped, cut, boned, or left over food shall be stored in the refrigerator in shallow containers not to exceed three inches in food depth or by such other satisfactory means that will insure prompt cooling of the whole mass to a temperature of 45°F. or lower within one hour. All cold foods shall be maintained at or below 45°F. while stored on serving line.

Potentially hazardous foods kept hot after preparation, as on a steam table, shall be stored at 150°F. or above until served or refrigerated. Water temperature of steam table shall be at 190°F. A thermometer should be provided on the steam table. All cooked foods that are to be cooled shall be cooled to 45°F. within one hour.

Frozen foods should be kept at 20°F to 0°F until used.

Appendix 1 - TABLE SHOWING IDEAL TEMPERATURES AND HUMIDITY OF FOODS FOR STORAGE LIFE INDICATED

Appendix 2 - OUTLINES METHODS USED IN REFRIGERATING FOODS

Appendix 3 - METHODS USED IN STORAGE OF DRY FOODS

9. WHOLESOMENESS OF FOOD:

All food and drink shall be clean, wholesome, and free from spoilage, shall be so prepared as to be safe for human consumption and meet standards of State and Federal agencies. All milk and fluid milk products and frozen desserts shall be from sources approved by the Department of Health.

Shellfish shall be from sources approved by the Department of Health. Tags showing permit number shall be attached to the container and be kept on file for 90 days. Shucked shellfish shall be kept in original container until used. The actual sources for these products are to be entered on the reverse side of the score sheet in the appropriate blanks. Milk and fluid milk products shall be stored in their original containers and where possible served in them. Milk may be served from an approved bulk dispenser.

All meats shall be inspected. Food and drink shall be protected from contamination during storage, preparation, display and serving. No unprotected open displays will be permitted. All foods on display shall be covered or protected by shields and perishable foods shall be maintained at the proper hot or cold temperature.

At all times during storage, preparation, display and serving there will be minimum manual contact with food and drink. Tongs, forks, spoons, spatulas, etc., shall be used in lieu of fingers for the serving of food. Foods should be prepared as close to serving time as possible.

No animals or birds will be allowed in food processing areas. Every room of a food processing establishment shall be kept free of flies and vermin.

Any poisonous substance in the establishment used for cleaning or any other purpose shall be colored and/or labeled so as to preclude mistaking its identity. Such substances shall be stored in areas other than food

processing areas preferably with janitorial supplies. At the time of spraying for insects, all foods, utensils and equipment shall be removed or covered.

All animal foods shall be thoroughly cooked, special consideration should be given to pork and pork products. This is most important to prevent trichinosis and food borne disease outbreaks.

It is important when making sausage, that raw pork shall not be tasted and that the meat grinder be thoroughly cleaned and sanitized after use with pork products.

Frozen foods shall be thawed at refrigerator temperature of 45°F. or below; or under cold running potable water; or quick thawed as part of the cooking process.

Ice shall be made from an approved water supply and shall be transported, stored, dispensed, and handled in a sanitary manner. The ice scoop shall be protected from contamination at all times.

Appendix 4 - TESTS FOR FOOD SPOILAGE AND PROCEDURES TO PREVENT FOOD SPOILAGE

10. HEALTH AND CLEANLINESS:

All food handlers shall be free of communicable diseases (and inspected daily for personal cleanliness) open sores or infected wounds. Food handlers including dishwashers shall wear clean outer garments which shall be used for no other purpose than their work duties (and shall wear hair nets or hats, be clean shaven, have their hair neatly combed, nails clean and bathe daily.) Habits of personal cleanliness shall be instilled and observed in the food handlers.

Medical screening and periodic examinations of employees to be complied with in accordance with Department of Institutions and Agencies Administrative Order 1:27 and 2:15.

No smoking or spitting will be permitted in the food storage, preparation, display or service areas. Designated smoking areas may be established.

11. PREMISES:

The premises of the establishment shall be kept neat and clean and free from any insect or rodent harborage. Unnecessary litter shall be removed from the premises and the general appearance shall be orderly.

12. HANDWASHING FACILITIES:

Handwashing facilities shall be adequate and conveniently located. Handwashing facilities shall be located either in or immediately adjacent to toilet rooms, plus other locations if necessary. Handwashing facilities shall include sinks, preferably with foot or knee controls, hot and cold running water, soap and sanitary towels.

13. TOILET:

Adequate and convenient toilet facilities shall be provided. Toilets shall be maintained in good working order, in a clean condition, well ventilated, lighted, free from flies and shall be constructed of materials that are easily cleanable. There will be no direct opening into any food handling room. The toilet room door shall be self-closing.

Connections to the building waste line shall be in accord with the State Plumbing Code.

A sign shall be posted in toilet rooms and kitchen stating, "Wash Hands Thoroughly After Toilet Use and Before Starting Work."

14. WATER SUPPLY:

The water supply system shall be adequate as to quantity and quality and from a source which meets sanitary requirements prescribed for drinking water.

There shall be no cross connections between potable and non-potable water supplies.

15. MISCELLANEOUS:

Dressing rooms or areas equipped with lockers or other suitable storage facilities shall be provided for employees. They should be separate from toilet rooms and food handling rooms and shall be kept clean. Clothing shall be stored in the dressing room or area only, and not stored in the toilet rooms, food handling or storage rooms, or in serving areas.

Containers shall be provided for soiled linens and shall be used.

Solid waste consisting of garbage, refuse, trash, etc. shall be kept in easily cleanable, covered containers and removed daily from the premises. The containers and storage area shall be kept clean and free from insects and rodents.

Liquid waste shall be disposed of in a public sewer or other acceptable method so as not to create a nuisance or health hazard nor pollute streams or water supplies. Special precaution shall be taken to prevent back siphonage into water supplies from toilets, dishwashing machines, potato peelers, steam tables, sinks, etc.

All products in the establishment used for food, drink, cleaning or any other purpose shall be properly labeled.

Appendix 5 - SUMMARY OF FACTORS INVOLVED IN FOOD POISONING

Appendix 6 - THE FUNDAMENTAL FIVE

Appendix 7 - GOOD HOUSEKEEPING IS GOOD BUSINESS

Appendix 8 - CHECK LIST FOR FOOD SERVICE SUPERVISOR

SOME REFERENCES

Retail Food Handling Establishment Code of New Jersey - 1965
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1964 Guide and Data Book - American Society of Heating, Refrigeration &
Air Conditioning Engineers.

APPENDIX 1

TABLE SHOWING IDEAL TEMPERATURES AND HUMIDITY
OF FOODS FOR STORAGE LIFE INDICATED

| <u>FOOD</u> | <u>STORAGE TEMPERATURE OF</u> | <u>RELATIVE HUMIDITY Per Cent</u> | <u>APPROX. STORAGE LIFE</u> |
|-----------------------------|---------------------------------------|---|---------------------------------|
| Apples | 30 - 32 | 85 - 90 | 2 - 7 mos. |
| Apricots | 31 - 32 | 80 - 90 | 1 - 2 wks. |
| Asparagus | 32 | 90 - 95 | 2 - 3 wks. |
| Bananas | 58 - 70 | 85 - 95 | 7 -10 days |
| Beans, green | 45 | 85 - 90 | 8 -10 days |
| Beets | 32 | 90 - 95 | 1 - 3 mos. |
| Blackberries | 31 - 32 | 85 - 90 | 7 days |
| Broccoli | 32 | 90 - 95 | 7 -10 days |
| Cabbage | 32 | 90 - 95 | 3 - 4 mos. |
| Carrots | 32 | 90 - 95 | 4 - 5 mos. |
| Cauliflower | 32 | 90 - 95 | 2 - 3 wks. |
| Celery | 31 - 32 | 90 - 95 | 2 - 4 mos. |
| Cherries | 31 - 32 | 85 - 90 | 10 -14 days |
| Corn | 31 - 32 | 85 - 90 | 4 - 8 days |
| Eggs | 29 - 31 | 80 - 85 | 6 - 9 mos. |
| Fish | | | |
| Fresh | 33 - 35 | 90 - 95 | 5 -15 days |
| Frozen | -10 - 0 | 90 - 95 | 8 -10 mos. |
| Smoked | 40 - 50 | 50 - 60 | 6 - 8 mos. |
| Frozen pack fruits | -10 - 0 | - | 6 -12 mos. |
| Frozen pack vegetables | -10 - 0 | - | 6 -12 mos. |
| Fruits, dried | 32 | 50 - 60 | 9 -12 mos. |
| Grapefruit | 50 | 85 - 90 | 4 - 8 wks. |
| Grapes | 31 - 32 | 85 - 90 | 3 - 8 wks. |
| Lard (without anti-oxidant) | 45 | 90 - 95 | 4 - 8 mos. |
| Lemons | 50 - 58 | 85 - 90 | 1 - 4 mos. |
| Lettuce | 32 | 90 - 95 | 3 - 4 wks. |
| Meat | | | |
| Bacon, smoked | 60 - 65 | 85 | 4 - 6 mos. |
| Beef, fresh | 32 - 34 | 88 - 92 | 1 - 6 wks. |
| Beef, frozen | -10 - 0 | - | 9 -12 mos. |
| Ham, fresh | 32 - 34 | 85 - 90 | 7 -12 mos. |
| Ham, frozen | -10 - 0 | - | 6 - 8 mos. |
| Ham, cured | 60 - 65 | 75 - 80 | 3 yrs. |
| Lamb, fresh | 32 - 34 | 85 - 90 | 5 -12 days |
| Lamb, frozen | -10 - 0 | - | 8 -10 mos. |
| Pork, fresh | 32 - 34 | 85 - 90 | 3 - 7 days |
| Pork, frozen | -10 - 0 | - | 4 - 8 mos. |
| Veal | 32 - 34 | 90 - 95 | 5 -10 days |
| Mushrooms | 32 - 35 | 85 - 90 | 3 - 5 days |
| Nuts | 32 - 50 | 65 - 75 | 8 -12 mos. |
| Oil (salad) | 35 | - | 1 year |

| <u>FOOD</u> | <u>STORAGE TEMPERATURE OF</u> | <u>RELATIVE HUMIDITY Per Cent</u> | <u>APPROX. STORAGE LIFE</u> |
|-----------------------|---------------------------------------|---|---------------------------------|
| Milk, fresh | 33 | - | 7 days |
| frozen, homogenized | 0 | - | 1 - 2 mos. |
| Oleo | 35 | 60 - 70 | 1 year |
| Onions | 32 | 70 - 75 | 6 - 8 mos. |
| Oranges | 32 - 34 | 85 - 90 | 8 - 12 wks. |
| Peaches | 31 - 32 | 85 - 90 | 2 - 4 wks. |
| Peas | 32 | 80 - 85 | 1 - 2 wks. |
| Peppers | 32 | 85 - 90 | 4 - 6 wks. |
| Pineapple, ripe | 40 - 45 | 85 - 90 | 2 - 4 wks. |
| Potatoes | 38 - 50 | 85 - 90 | 5 - 8 mos. |
| Poultry, fresh | 32 | 85 - 90 | 1 week |
| Poultry, frozen | -20 - 0 | 90 - 95 | 9 - 10 mos. |
| Pumpkin | 50 - 55 | 70 - 75 | 2 - 6 mos. |
| Radishes | 32 | 90 - 95 | 2 - 4 mos. |
| Rabbits, fresh | 32 - 34 | 90 - 95 | 1 - 5 days |
| Raspberries | 31 - 32 | 85 - 90 | 7 days |
| Spinach | 32 | 90 - 95 | 10 - 14 days |
| Strawberries | 31 - 32 | 85 - 90 | 7 - 10 days |
| Tomato | 45 - 50 | 85 - 90 | 2 - 7 days |
| Turnips | 32 | 90 - 95 | 4 - 5 mos. |
| Cottage Cheese, fresh | 32 | - | 2 weeks |
| *Other hard cheeses | 40 | - | 1 year |
| Butter | -10 - 0 | 80 - 85 | 1 year |

*Gradual ripening takes place at 40°, undesirable characteristics develop if held at 50° or above.

APPENDIX 2

METHODS USED IN REFRIGERATING FOODS

1. All perishable foods shall be stored under refrigeration, immediately on arrival and after inspection.
2. Keep strong odor foods, such as onions, vinegar and salads away from butter, eggs and milk. Use of separate refrigerators recommended.
3. Maximum temperature of refrigerated foods 45° to prevent bacteria growth of Staph. and Salmonella.
4. To get the best from your refrigerator:
 - a. Pack food loosely to get maximum circulation.
 - b. Remove paper wrappings and hang raw meats away from walls. Cold air needs to circulate to keep food from spoiling.
 - c. Cover containers of food with metal covers or clean paper to prevent contamination due to spillage or drippings of foreign particles.
 - d. Discard things not needed to prevent crowding and increase circulation.
 - e. Place new purchases at back; use older things first.
 - f. Wash refrigerator frequently. It must be kept clean to keep free of odor.
 - g. Defrost before $1/4$ " frost gathers to aid cooling process.
 - h. Open door only when necessary, opening door unnecessarily raises the temperature.
 - i. Freezer - Processed meat items should be suitably wrapped in freezer paper before storing in the freezer to prevent drying and to provide sanitary protection during storage.
 - j. Do not cover shelving. Provide deflector under refrigeration unit and pipe to outside.
 - k. Provide thermometer at warmest zone (higher near door).
 - l. Do not store foods directly on floor.
5. Recommended temperature ranges for fresh food, refrigerated storage:

| | |
|--|-----------------------------|
| a. Maximum acceptable temperatures for storage of all perishable foods | 45° |
| b. Fruits and vegetables | 40° - 45° |
| c. Dried fruits | 38° - 42° |
| d. Dairy products | 38° - 42° |
| e. Meat and fowl | 33° - 38° |
| f. Fish and shellfish | 23° - 30° |
| g. Frozen food | -20° - 0° |
6. No direct connection between refrigeration and sewer to prevent entrance of roaches, rodents, sewer gas, or sewage backflow.
7. Refrigerator doors shall be kept closed as much as possible. Self-closing doors preferred. Two sets of doors recommended for freezers, or a canvas curtain inside of door entrance. Inspect door gaskets to prevent air leakage.

Appendix 2 (continued)

8. Perishable foods and leftovers shall be stored in shallow containers at a temperature below 45°. The food depth shall not exceed 3 inches in the pan to provide prompt cooling. There shall be no paper on slatted or perforated shelves to prevent air circulation. Bottles or cartons of food shall not be stored under the water line in ice coolers.

APPENDIX 3

METHODS USED IN STORAGE OF DRY FOODS

1. All cartons of food shall be stored on slatted racks at least six inches and preferably one foot from floor and two feet away from wall, in a clean, cool, well ventilated area. This will aid in air circulation and prolong keeping quality of food. It will permit cleaning underneath each stack of food and prevent rodent and insect harborage locations. Bulk food shall be stored in covered glass or metal containers and container cleaned when emptied. Bulk cereals and dried fruit and vegetables should be refrigerated if space is available; otherwise, store in cool dry place with adequate ventilation.

Dry whole milk powder should be refrigerated. Non-fat dry milk should be refrigerated or stored in a cool dry place with adequate ventilation.

Evaporated milk should be stored in the coolest part of the storeroom and the cans should be inverted once every thirty days to prevent the separation of butterfat.

All containers shall be inspected once a week. Remove swollen cans, foods that have lost their identity and insect infested foods.

Other helpful considerations include:

- a. Inspection of incoming food.
 - b. Maintenance of running inventory.
 - c. Dating and rotating of stock.
 - d. Provision of adjustable metal shelving.
 - e. Provision of adequate light to read labels and perform inspections.
Light color paint recommended to augment illumination.
2. There should be no overhead pipes in storeroom, especially sewerage lines. Ample air circulation is required.
 3. All poisons, especially disinfectants, fly sprays, ammonia, cleaning powders and cleaning fluids shall be stored separately and apart from all foods and in special closet provided for this material. All of these containers shall be properly labelled. If old bottles are used all old labels should be removed and new labels should contain the name of the manufacturer, the item, directions for use and antidotes. In the event identity of material has been lost, it should be discarded.

APPENDIX 4

INDICATIONS OF FOOD SPOILAGE

CANNED FOOD

Swelled top and bottom
Dents along side seams
Off-odor
Foam
Milkeness of juice

This applies to canned vegetables, meats, fish and poultry. Home canned foods should be cooked thoroughly.

FISH

Off-odor
Gray or greenish gills
Sunken eyes
Flesh easily pulled away from bones
Mark of fingernail indentation remains in flesh
Not rigid

RAW SHRIMP

Pink color on upper fins and near tail
Off-odor similar to ammonia
Some types of shrimp are naturally pink. Cooked shrimp are also pink. Both are wholesome if the odor is not abnormal.

DRESSED POULTRY

Stickiness under wing, at the point where the legs and body join, and on upper surfaces of the tail.
Darkening of wing tips.

MEAT

Off-odor
Slimy to touch
Beef usually spoils first on surface
Pork spoils first at meeting point of bone and flesh in the inner portions. To test for spoiled pork use a pointed knife to reach the interior of the meat. An off-odor on the knife means spoilage.

LEFTOVER FOOD

Discoloration -Mold
Off-color
Any food that has not been refrigerated below 45° may be considered slightly spoiled. The off-odor of spoiled food is not always apparent. All leftovers should be used within 36 hours or discarded.
Bacterial spoilage of food begins as soon as it becomes warm.
Refrigeration will delay this spoilage.

FRUITS AND VEGETABLES

White or grayish powder around stems of fruit and at juncture of leaves and stems of cabbage, cauliflower, celery and lettuce. This powder indicates spray residues. Most of the chemicals used by growers are not dangerous, but some may be. All fruits and vegetables must be washed before eaten or cooked. Cooking will not destroy the spray chemicals.

Appendix 4 (Cont'd on next page)

Procedures to Prevent Food Spoilage

APPENDIX 4 (Continued)

PROCEDURES TO PREVENT FOOD SPOILAGE

SALADS

Chicken salad, tuna and other fish salads, non-acid potato salad, all types of custard filled pastries and some types of cold cuts must be kept refrigerated at all times. All have been touched with the hands during their manufacture and may be considered slightly infected.

Refrigeration will keep infection from increasing. Spoilage is often impossible to detect until foods are totally spoiled. Serve salads immediately after taking from refrigerator.

FROZEN FOODS

Frozen foods will spoil if kept out of the refrigerator for any length of time. Spoilage is caused by growth of bacteria on the food.

Frozen vegetables should be cooked only until tender in order to preserve nutritional value, flavor and color. If contamination is suspected the item should be discarded rather than cooked.

CEREALS

Insects in cereal. Spread the cereal on brown paper. If insects are present they will be easily seen. If even one is observed destroy the entire batch of cereal. These insects are not dangerous, but neither are they appetizing.

APPENDIX 5

SUMMARY OF FACTORS INVOLVED IN FOOD POISONING

Food poisoning is the consumption of spoiled or adulterated food that may produce an acute attack of illness involving nausea, vomiting or diarrhea, or all three, and on occasions may cause death. It may be caused by bacteria or by chemicals.

I. Bacterial Poisoning

A. Food Intoxication

1. Staphylococcus

- a. The food intoxication is caused by an enterotoxin produced by the staphylococcus organism.
- b. Symptoms - Salivation, nausea, vomiting, prostration, abdominal cramps and diarrhea in severe cases; and any one or more of the symptoms in milder cases.
- c. Mode of transmission - Staphylococcus organisms may be found almost anywhere, but the principal means of infecting food are by the food handler from such infections as boils, pimples, acne, infected cuts or from soiled outer clothing on which soil is harboring the bacteria.
- d. Prevention of staphylococcus intoxication may be accomplished by the control of food handlers with localized purulent infections, protection of foods from dusts, preparation of food as close to serving time as possible and effective refrigeration. Foods most commonly associated with staphylococcus intoxication are cream and custard filled pastries, milk, milk products and meats (particularly cured ham).

2. Botulism

- a. The food intoxication is caused by an exotoxin produced by the botulinus organism under anaerobic conditions.
- b. Symptoms - Early symptoms include an indefinite indisposition with a feeling of fatigue and definite muscular weakness. Usually there is no gastro-intestinal upset, but constipation is almost constant. There follows a dimness of vision progressing toward blindness. Shortly after the disturbance to vision there occurs a difficulty to swallow and to talk. General paralysis is gradually progressive.
- c. Mode of transmission - Through contamination of certain foods such as: treated meats, examples are ham and sausage; canned vegetables, such as string beans, corn, peas, and spinach; and cottage cheese.

Appendix 5 (Continued)

- d. Prevention - Only clean, fresh food should be used for canning. All parts of the food mass should be heated to a temperature of 250 degrees F. for 10 minutes to kill any spores present. Food cans with bulged ends that emit gas when opened should be suspected and should not be used.

B. Food Infection

1. Salmonellosis

- a. Salmonella infection is caused by an endotoxin that is produced after the death of the salmonella organism in the alimentary tract of man and animals.
- b. Symptoms - They start with a headache that is followed by nausea, vomiting, diarrhea and abdominal pain. Symptoms may include fever sometimes.
- c. Mode of transmission - Salmonella organisms are common in the alimentary tract of all animals. Although the food handler is principal source of infection; rodents and insects, especially flies and cockroaches, play an important role in the transmission of these organisms. Foods most commonly associated with Salmonellosis are pork and poultry, egg and poultry salads, hash, hamburger, and creamed meat pies.
- d. Prevention - Primary control procedures are good personal hygiene practices by the food handler, adequate cooking, effective refrigeration, and the control of insects and rodents.

II. Chemical Poisoning

- a. Chemical food poisoning usually refers to adulteration by inorganic chemicals such as arsenic, antimony, barium carbonate, cadmium, sodium fluoride, lead, zinc, etc.
- b. Symptom - The symptom of chemical poisoning when taken in sufficient quantities is acute gastro-enteritis that occurs within one half hour after consumption.
- c. Mode of transmission - Sometimes some of the inorganic chemicals mentioned above may be mistakenly added to the food in place of flour, sugar or salt. Others may be dissolved from the equipment or utensils in which the food is stored or cooked.
- d. Prevention - Preventive measures for insecticides, rodenticides and cleaning agents are proper and adequate labeling; purchase of colored insecticides and rodenticides; and storage separate and away from areas where food is stored. Where mental solubility is involved, only equipment and utensils fabricated of approved materials should be used and purchased.

Appendix 5 (Continued)

In general, the prevention of food poisoning may be obtained by:

- (1) the practice of good personal hygiene by all food handlers,
- (2) proper and adequate refrigeration or heat. Foods should be kept at temperatures of 45 degrees F. or below until the time of serving and either immediately placed under refrigeration when the meal has been served or thoroughly cooked and kept at temperatures above 140 degrees F. until served,
- (3) elimination of insects and rodents to prevent them from contaminating food and work surfaces,
- (4) proper housekeeping procedures to eliminate contaminated work surfaces, to minimize dust and soil and to properly and safely store foods, equipment and supplies.

In addition to food poisons, foods, utensils and other fomites may serve as vehicles for the dissemination of contagious diseases such as colds, throat infections, infectious hepatitis, amebic and bacillary dysenteries, typhoid fever, etc. Prevention of the dissemination of such diseases is attained

- (1) by the or use of only healthy personnel who practice good personal hygiene;
- (2) proper handling of food, dishes and equipment; and
- (3) proper dishwashing practices.

APPENDIX 6

THE FUNDAMENTAL FIVE

1. CLEAN HANDS - Dirty hands spread germs. Hands and fingernails should be thoroughly washed with soap and water before work, after using toilet, and every time they are soiled.
2. CLEAN SERVICE - Handling utensils the wrong way may spread diseases. After use, utensils should be scraped, washed clean in hot water, sanitized and then carefully stored and handled.
3. CLEAN FOOD - Food may be infected by coughs, sneezes, handling, dirty equipment, vermin, animals and wastes. It should be protected during storage, preparation, display and service.
4. RIGHT TEMPERATURE - Cold stops germs from growing; heat kills them. Cold food should be kept chilled, held under 45°; hot foods should be kept hot 140 F. Prepared food never should be left standing at room temperature one unnecessary minute.
5. WORKERS HEALTH - Food workers must be healthy, for colds and other diseases may be passed to others. Germs from infected cuts, pimples or boils may cause food poisoning.

NOTE: It is most important that personal or hand contact be eliminated wherever possible in the handling of foods and beverages.

Utensils such as forks, spatulas, tongs, etc. shall be used in lieu of hands or fingers in the preparation or serving of food to every extent feasible.

APPENDIX 7

GOOD HOUSEKEEPING IS GOOD BUSINESS

FLOORS:

1. Kitchen, storage, entrance hall and toilet floors should be scrubbed regularly and often.
2. Use a good detergent or cleaning compound depending on kind of floor.
3. Scrub only a small area at a time.
4. Set heavy equipment away from walls to allow for cleaning around it.
5. Clean floors help to control insects.
6. Keep floor drains clean; it helps to keep down odors.
7. Use a neutral cleaner on terrazzo, linoleum asphalt tile, marble or painted floors.
8. Keep floors dry to prevent accidents.

WORKING SURFACES:

1. Clean bread boards, meat blocks, salad and sandwich tables before placing food on them.
2. Rinse and dry with paper towels.

EQUIPMENT:

1. Clean all equipment regularly; inspect and adjust correctly to prevent accidents.
2. Establish a routine for cleaning.
3. Disconnect current before disassembling and cleaning electric equipment.
4. Clean and dry parts.
5. Reassemble or cover parts when not in use.

STORAGE AND LOCKER ROOMS:

1. Have a place for everything.
2. Have everything in its place.
3. Shelves should be arranged to allow merchandise to be stored for ease in cleaning.
4. Have janitor's supplies stored in a special room.
5. Store eating utensils off the floor and away from traffic lanes.
6. Place janitor's equipment where it will not cause accidents or falls.

CLOAK AND REST ROOMS:

1. Keep the rooms orderly.
2. Keep them clean.
3. Clean floors regularly.
4. Keep bowls and basins clean.
5. Use single-service towels.
6. Empty wastepaper baskets daily.
7. Keep soap containers filled.
8. Food must not be stored in these rooms.
9. In cleaning toilet bowls and basins, use a non-abrasive cleaning compound.

KITCHEN:

1. Do not place supplies on top of refrigerator or other equipment.
2. Shoes and street clothing should not be left in the kitchen.
3. Good ventilation cuts down grease collection on walls and equipment.
4. Flies do not gather quickly in well ventilated rooms.
5. Good ventilation aids health.
6. Good ventilation reduces odors.

DINING ROOM:

1. Remove at once dishes, glassware, foods, and liquids that have dropped on the floor. Place a chair over broken dishes on the floor if they cannot be removed immediately.
2. Remove brooms, cleaners, and other equipment after use to the proper storage room.
3. Make sure that mats and runners on the floor are free from loops and wrinkles.
4. Clean walls can increase light.
5. Dirty dishes and utensils should be removed from the dining room tables at once.

APPENDIX 8

CHECK LIST FOR FOOD SERVICE SUPERVISOR

| Person assigned for self-inspection | Date | | |
|---|------|-------|-------|
| | | YES | NO |
| A. <u>FOOD:</u> | | | |
| Fresh and wholesome | | _____ | _____ |
| Protected from insects, dust and other forms of contamination | | _____ | _____ |
| Accurate thermometer used to check that refrigerator temperature is 45° or below | | _____ | _____ |
| Actual temperature reading °F. | | _____ | _____ |
| Cream and custard pastries always refrigerated | | _____ | _____ |
| Refrigerated foods stored in approved containers and spaced to allow free air circulation. | | _____ | _____ |
| Prepared foods that are to be held over cooled quickly and refrigerated. No more than 3" food depth | | _____ | _____ |
| Foods not held on steam tables or in refrigerator for excessive periods | | _____ | _____ |
| Milk stored and served in approved manner | | _____ | _____ |
| B. <u>WORKERS:</u> | | | |
| Free of colds, boils, pimples, rashes and other indications of infection | | _____ | _____ |
| Hands (including nails) always clean | | _____ | _____ |
| Clean personal and hand habits | | _____ | _____ |
| Head coverings worn | | _____ | _____ |
| Clothing clean | | _____ | _____ |
| No tobacco used | | _____ | _____ |
| Minimum manual contact with food and ice | | _____ | _____ |
| Proper utensils used for serving food to eliminate fingering | | _____ | _____ |
| Knives, forks, spoons and cups picked up by handles; glasses by bottom | | _____ | _____ |
| C. <u>CONDITION AND CLEANLINESS OF PREMISES AND EQUIPMENT:</u> | | | |
| Walls, ceilings and floors, dressing rooms and lockers, toilet rooms and fixtures clean | | _____ | _____ |
| Ventilating systems satisfactory | | _____ | _____ |
| Lights clean and working properly | | _____ | _____ |
| Refrigerator, cabinets, work tables, etc., clean | | _____ | _____ |
| Fountain, counters, shelves and storage facilities clean | | _____ | _____ |
| Slicing, mixing, chopping and other machines cleaned as often as needed | | _____ | _____ |
| Tables and other eating surfaces suitably covered with cloth or paper or adequately cleaned after each use. | | _____ | _____ |
| Clean wiping cloths used | | _____ | _____ |
| Dishwashing machine clean and working properly | | _____ | _____ |
| Utensils clean, free from corrosion and in good repair | | _____ | _____ |
| Cream dispensers completely dismantled and cleaned as necessary | | _____ | _____ |
| Ice cream dippers clean and kept in running water | | _____ | _____ |
| Sugar, catsup and other dispensers clean and protected from contamination | | _____ | _____ |

Appendix 8 (Continued)

YES NO

| | | |
|--|-------|-------|
| No insects or vermin | _____ | _____ |
| Soiled clothing in suitable hampers or other storage facility | _____ | _____ |
| Adequate supply of soap and single service towels for hand-washing | _____ | _____ |
| Conspicuous handwashing notice posted | _____ | _____ |
| Establishment free from empty cartons, boxes, unused equipment, etc. | _____ | _____ |
| Garbage and refuse stored in tightly covered, leakproof receptacles | _____ | _____ |
| Wastes removed frequently and receptacles washed | _____ | _____ |
| Outdoor service areas neat, clean and free from vermin | _____ | _____ |

D. WATER SUPPLY:

| | | |
|--|-------|-------|
| Adequate hot and cold water, under pressure, for all needs | _____ | _____ |
|--|-------|-------|

E. SINGLE SERVICE PAPER EATING AND DRINKING UTENSILS:

| | | |
|---|-------|-------|
| Adequate supply on hand | _____ | _____ |
| Stored off floor in dry place away from heat and in original containers | _____ | _____ |
| Protected from contamination and unnecessary handling | _____ | _____ |
| Dispensers used, kept clean and properly filled | _____ | _____ |
| Holders clean | _____ | _____ |
| Only wrapped straws used | _____ | _____ |

F. MULTI-USE EATING AND DRINKING UTENSILS:

| | | |
|---|-------|-------|
| No chipped, cracked or rough-surfaced dishes, glasses or cups | _____ | _____ |
| All clean utensils air dried before storage or re-use (no towel used) | _____ | _____ |
| Clean utensils protected from flies, dust or other contamination | _____ | _____ |
| Soiled utensils scraped or rinsed free of food particles before washing | _____ | _____ |

Hand Dishwashing:

| | | |
|--|-------|-------|
| Pre-rinsed first | _____ | _____ |
| Three compartments used with baskets | _____ | _____ |
| Recommended amount of water, detergent and sanitizer used | _____ | _____ |
| Temperature of wash water 120°F. by actual reading °F. | _____ | _____ |
| Wash water changed as necessary | _____ | _____ |
| If sanitizing is by hot water, temperature 180° or above, and utensils immersed for two minutes, or actual reading °F. of chemical rinse | _____ | _____ |
| Chemical rinse used if 180° hot water not available | _____ | _____ |

Mechanical Dishwashing:

| | | |
|--|-------|-------|
| Recommended amount of detergent used in wash tank | _____ | _____ |
| Temperature of wash 140°F., by actual reading | _____ | _____ |
| Clean wash water | _____ | _____ |
| Adequate supply of rinse water at 180°F., by actual reading °F. | _____ | _____ |
| Chemical rinse shall be used at all times when 180° hot water is not available | _____ | _____ |