

## SANITATION – ITS ROLE AND REQUIREMENT UNDER THE POULTRY PRODUCTS INSPECTION ACT<sup>1</sup>

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It is indeed a real pleasure to meet with you today and to take an active part in the annual meeting of the International Association of Milk and Food Sanitarians being held here at Des Moines, Iowa.

Poultry Inspection service in the United States is not new. Only the mandatory aspects of it are of rather recent origin. The first Federal Poultry Inspection Service was inaugurated on November 15, 1926. This service consisted of the inspection of live poultry at the railroad terminals and poultry markets in and around New York City. This inspection was conducted under an agreement between the U. S. Department of Agriculture (Bureau of Agricultural Economics) and two cooperating agencies—the New York Live Poultry Commission Merchants Association and Greater New York Live Poultry Chamber of Commerce.

The live poultry inspection work accomplished two purposes. The principal purpose was to determine, by palpation, the average amount of feed in the crop of a sample of birds in each railroad car or truck prior to unloading and delivery to live poultry buyers. If the amount of feed in the crops was found to be in excess of the amount permitted, the poultry would be held for reinspection. Cars of poultry were not permitted to be unloaded until they passed inspection. This inspection was also for the purpose of determining that certain prohibited materials were not included in the feed on the morning of unloading.

The other purpose of this live poultry inspection was to remove and to destroy for food purposes all sick poultry found at the time of inspection.

The first Federal poultry inspection for eviscerated poultry was a voluntary program supplied in 1927 to a large soup company in the East. It was requested because the Canadian Government required that canned poultry products shipped into Canada be accompanied by a Federal export certificate attesting that the product had been officially inspected and had been found to be wholesome.

During 1927, only one plant used the new inspection service developed by the Department. In 1928,

New York City followed the lead of Canada by requiring that canned poultry products sold in the city be officially inspected. This resulted in five additional plants requesting inspection from the Department to meet these requirements. By the end of 1928, six plants were operating under the voluntary poultry inspection program. During that year 3,150,423 pounds of poultry were inspected, 11.72 percent of which was condemned as unfit for food. The percentage of poultry condemned was markedly decreased during subsequent years, since canners under inspection soon found that it was not profitable to present inferior quality poultry for inspection purposes.

Much progress was made in the development of regulatory procedures and criteria governing inspection work during the years from 1928 to 1940. On July 1, 1940, there were approximately 35 plants operating under inspection. In that year 76.3 million pounds of dressed poultry were inspected with the percentage of condemnation being 1.64 percent.

By 1950 the development of the poultry industry had reached the point where it was considered practicable to issue regulations governing the sanitary conditions under which poultry was to be slaughtered and dressed. Sanitation inspection was furnished in dressing plants which applied for such service and which met the sanitary requirements. Eviscerating plants operating under inspection were not permitted to receive dressed poultry for eviscerating unless it had been slaughtered in an official establishment. By the end of the year 1950, 155 plants were operating under inspection and a large number of dressing plants were receiving sanitation inspection. By the end of 1954, 260 plants were operating under inspection, and in that year over a billion pounds of poultry were inspected for wholesomeness. Most of the increase since 1945 has been in inspected poultry prepared for sale as ready-to-cook poultry.

The Poultry Products Inspection Act was passed by the 85th Congress and signed into law by President Eisenhower on August 28, 1957. The law did not become fully effective until January 1, 1959. We now have approximately 840 plants operating under the mandatory inspection program. The thirty years-plus experience in the field of poultry inspection has served as a firm foundation which has enabled the

<sup>1</sup>Presented at the Annual Meeting of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC., at Des Moines, Iowa, August 14-17, 1961.

Inspection Branch, Poultry Division, Agricultural Marketing Service, to properly handle the job delegated to it under the Poultry Products Inspection Act and provided a relatively smooth transition from the voluntary to the mandatory inspection program.

Due to the large expansion of the number of poultry processing plants under federal inspection upon passage of the Poultry Products Inspection Act, the Department initiated a rather comprehensive training program for inspection personnel which included both on-the-job training and classroom instruction.

New inspectors normally undergo six months to a year of on-the-job training which includes:

1. Orientation training in the objectives of USDA and the poultry inspection program.
2. Training at the plant in actual inspection of birds and the use of inspection criteria.
3. Scheduled conferences to discuss with instructors various aspects of the training.
4. Assigned outside reading including copies of the Poultry Products Inspection Act, regulations, and other material related to the job.
5. Supervisory training to prepare the new inspector for later supervisory positions.

The entire training period follows a plan of study set up by USDA. Training guides and instruction sheets prepared by the inspection service go to supervisory personnel at all plants where new inspectors receive training. At the end of the on-the-job training period, station supervisors report on the performance of each new inspector.

Later, advanced training and refresher courses in the classroom are offered to the working inspectors. Usually held at times when it will not interfere with the inspectors' official duties, these schools run from one to two weeks. They are designed to keep the already qualified inspector informed of the latest developments in the industry and the latest changes in inspection methods.

The classroom program was used in a special way during 1958 to facilitate training the many new inspectors needed under the Poultry Products Inspection Act. Several months before the Act became fully effective, USDA held two "train-the-trainers" schools. About 78 inspectors attended one or the other of these schools. Later, in 1958, a series of one and two-week schools led by trained supervisors drew 269 inspector-trainees.

By mid-December 1959, less than a year after the Poultry Products Inspection Act went into effect, 1600 qualified inspectors were working at poultry slaughtering and further processing plants throughout the country. These included 850 new men trained during 1958 and 1959.

The program is further specialized to facilitate training of both veterinary and lay inspectors. The

lay inspector trains for 12 months—twice as long as the veterinarian. Trained lay inspectors often work on the inspection line at large poultry slaughtering plants. They may condemn carcasses with easily recognizable systemic disease conditions. But those carcasses falling in a doubtful category must await examination by the veterinary inspector. In all questionable cases, the veterinarian makes the final decision. Lay inspectors also perform most inspection tasks at convenience foods or further processing plants. Poultry comes to these plants after being certified as wholesome at the time of slaughter. The inspectors' work is primarily one of checking cleanliness and procedure at the plants and reinspecting for condition of all components of poultry food products.

The Declaration of Policy in the Poultry Products Inspection Act says: "It is hereby declared to be the policy of Congress to provide for the inspection of poultry and poultry products by the inspection service as herein provided to prevent the movement in interstate or foreign commerce or in a designated major consuming area of poultry products which are unwholesome, adulterated, or otherwise unfit for human food."

The term "wholesome" is defined in the Act to mean poultry which is ". . . sound, healthful, clean, and otherwise fit for human food." The term "unwholesome" is also defined in the Act as those conditions which would be contrary to the terms defined as "wholesome."

The Act also defines "adulterated". In this connection, it should be pointed out that the U. S. Department of Agriculture has full responsibility for preventing adulteration of poultry under the Poultry Products Inspection Act, an authority which previously had been vested in the Food and Drug Administration under the Food, Drug and Cosmetic Act. The definition for "adulterated" as applied to poultry and poultry products under the Act includes among other things ". . . If any substance has been added thereto or mixed or packed therewith so as to increase its bulk or weight, or reduce its quality or strength, or make it appear better or of greater value than it is."

In general terms, the Poultry Products Inspection Act requires USDA to:

1. Determine which poultry is fit for food. This determination must be made at the time of slaughter and evisceration. An ante-mortem inspection must be made of each lot of poultry to be slaughtered, and a post-mortem inspection is required on each individual poultry carcass.

2. Promulgate regulations which establish minimum standards for premises, facilities, equipment and poultry processing operations, and which require

processors to operate official establishments in compliance with these standards. These regulations assure consumers that poultry is processed and handled in accordance with sound operating procedures and that sanitation and wholesomeness are of prime importance during processing.

3. Make certain that all poultry and poultry products are properly labeled in accordance with the law at the time the poultry leaves a processing establishment and that no misuse is made of officially identified materials.

4. Make sure that poultry is not adulterated through the addition of excess moisture, poisonous materials, or in any other manner.

How does a poultry processing plant qualify for inspection service? There are certain definite requirements which must be satisfied before a poultry processing plant may receive the benefits of the Poultry Products Inspection Act. The usual procedure followed by a plant desiring such service is as follows:

1. The plant submits an "Application for Inspection" to the appropriate area office. There are six area offices located throughout the nation. An area office is located in each of the following cities: Philadelphia, Pennsylvania; Chicago, Illinois; Des Moines, Iowa; San Francisco, California; Atlanta, Georgia; and Dallas, Texas. The completion of the application requires the applicant to state whether or not his poultry product will be shipped by him or with his knowledge in interstate commerce. An affirmative answer to this question is necessary because the product must be involved in interstate commerce in order for a plant to be eligible to receive inspection service under the PPIA.

2. The plant may request a survey of its plant and plant facilities, should it so desire. The purpose of such a survey will be to determine what changes, if any, will be necessary in order to bring the plant's facilities into compliance to meet the minimum standards of the regulations.

3. The plant submits four sets of plant drawings to the Facilities Section of the Washington office. These drawings are carefully scrutinized by qualified inspection personnel to determine if plant layout and construction are suitable and will meet the minimum requirements of the regulations. Should the drawings be found satisfactory, they are stamped "approved" and a copy sent back to the firm. If not satisfactory, the reasons for not granting approval are listed and all copies returned to the firm unstamped.

4. The plant must submit forms for "Certification of Water Potability", issued under the authority of the State Health agency, which certifies to the potability of the water supply.

5. All labels to be used by the plant must be submitted to the Food Products Section of the Washington office for approval. No label may be used by a plant until properly approved, the plant has qualified in all other respects for inspection service, and permission granted by the Department to inaugurate service under the Poultry Products Inspection Act.

6. A final survey may be requested by the plant at any time it is believed that the plant and plant facilities are in agreement with the approved drawings and the regulations. The final survey will be conducted by technical supervisory personnel from the appropriate area office. The plant will be carefully examined to determine that its construction and facilities are as they are depicted on the approved drawings and that the plant will meet the minimum requirements of the regulations in all respects.

That, in general, is the procedure that should be followed by any poultry processing plant which desires to receive inspection service under the Poultry Products Inspection Act.

The establishment and maintenance of good sanitation practices in each plant coming under the poultry inspection program is of prime importance to the Department. A lot of effort, time, and money are usually expended, both by the inspection department and the processing plant, to insure that the proper facilities will be available for the processing of poultry under government supervision.

As stated previously, as part of the requirements for qualifying a plant for poultry inspection service, it is necessary that sufficient potable water for the needs of the plant be available and that a survey of plant facilities be made to determine what necessary changes may have to be carried out.

The water supply must be suitable for drinking purposes and the processing of poultry. It must be in sufficient quantity and of adequate pressure to insure that all poultry being processed will be washed properly and to provide an ample supply of hot water for clean-up purposes. In plants conducting slaughtering and eviscerating of poultry, the quantity of water available for processing is very important. Generally, we feel that plants conducting the processing of chickens should have available five gallons of water for each bird processed. Plants processing turkeys need to have thirty gallons of water available for each bird processed.

The conducting of plant surveys is an extremely important function of supervisory inspection personnel. It is their responsibility to make sure that the plant facilities and plant layout are as shown on the approved drawings and in line with the rest of the requirements of the regulations. There are many important items to be considered when making such a survey. Among the important considerations

are such things as the outside premises. Is there sufficient drainage? Are there proper hard-surfaced areas for loading and unloading, with proper dock facilities for both ready-to-cook and inedible products? Plant construction is vitally important to insure that the facilities are such that they can be easily maintained and cleaned. General requirements for floors are that they be impervious to moisture and provided with adequate drainage that is properly trapped and vented. Walls, posts, partitions and doors in rooms where exposed products are prepared must be smooth and impervious to moisture to a height of six feet above the floor to enable thorough cleaning. All surfaces above six feet must be smooth and water resistant. Ceilings must be moisture resistant in rooms where exposed products are prepared or handled, and they must be finished and sealed to prevent collection of dirt and dust that might sift through the floor above or fall from collecting surfaces on equipment or exposed product.

All drains and gutters should be properly installed with approved traps and vents. The drainage and plumbing system must permit the quick runoff of all water from plant buildings and of surface water around the plant and on the premises.

The sewage system must have adequate slope and capacity to insure its prompt and efficient removal. Grease traps and sumps must be suitably located. They are not permitted in processing rooms where edible products are being handled. They should be properly constructed with inclined bottoms and furnished with suitable covers. Toilet soil lines should be separate from house drainage lines to a point outside the buildings unless an automatic backwater check valve is installed to prevent back flow.

Adequate lavatory and toilet accommodations must be available. Toilet facilities must be furnished at the following ratio: 1 to every 15 persons of the same sex, 2 for 16 to 35, 3 for 36 to 55, 4 for 56 to 80, etc. Sufficient lavatories with soap dispensers and towels must be available and signs posted in a conspicuous place directing employees to wash their hands before returning to work. Each processing room or area must be provided handwashing lavatories that are other than hand operated (such as foot or knee operated devices).

Good lighting is very important in the maintenance of good sanitation and in carrying out post-mortem inspection techniques in an efficient manner. Lighting must be at least 30 foot candles in processing areas, 50 foot candles at inspection points, and 5 foot candles in other areas such as dry storage and warehouse facilities.

Adequate ventilation is a must if proper plant sanitation is to be maintained. Such facilities are

necessary for prevention or elimination of objectionable odors and to minimize moisture condensation. Eviscerating and picking rooms, offal rooms, and cooking areas are especially in need of good ventilation.

Equipment and utensils to be used in plant operations must meet certain standards. The type of construction, ease of cleaning, and placement of all non-portable equipment are important factors to be considered. Equipment should be constructed of rust-resistant material such as stainless steel, galvanized iron, or aluminum. Ease of cleaning is a most important factor. Equipment or machinery that is complex in make-up should be designed for easy dismantling to assure that all parts of such equipment will receive their share of attention and remain in a good, clean condition. Proper placement of equipment in relation to walls and other equipment is another factor taken into consideration when making plant approvals. Complete accessibility is paramount to the maintenance of good sanitation on all permanently installed equipment. Generally speaking, the Department requires at least 30 inches of clearance between equipment and walls or other pieces of equipment.

Wood or wooden equipment are not allowed in processing areas. This type of equipment does not lend itself to good sanitation and experience has shown that material that is not impervious to moisture cannot be cleaned properly nor maintained in a good state of preservation over a period of time.

Conveyor belts, either metallic or impervious non-metallic types, with which poultry or poultry products come into direct contact, should be furnished with a continuous water spray to insure their sanitation at all times. Ice shovels are required to be entirely smooth and constructed of rust-proof impervious material.

Plant personnel are required to wear clean clothing at all times. Street clothes are not acceptable. Lockers and dressing rooms must be furnished for employees in order that they may change into proper plant attire. Head coverings for all persons handling exposed poultry or poultry products are required. Hands and fingernails are required to be kept clean at all times. Persons with infected cuts, boils or open sores are not allowed to handle dressed poultry, poultry products handling equipment. The use of tobacco, the eating of food, or any other personal habit which may result in a nuisance, is not permitted in any room where exposed dressed poultry or poultry products are being prepared, processed, or otherwise handled. No person affected with any communicable disease in a transmissible stage is permitted in any part of the plant where exposed

poultry or poultry products are being prepared or handled.

Poultry inspection personnel, in general, are charged with the responsibility of conducting ante-mortem and post-mortem inspection of poultry in plants conducting slaughtering and eviscerating operations, maintaining proper plant sanitation and sanitation practices, seeing that label requirements and formula compliance are being carried out correctly, and preventing practices or procedures that might result in adulteration of poultry or poultry products.

Before each day's operation begins, the entire plant and plant facilities receive a thorough sanitation check to see that all rooms, compartments, and equipment have been cleaned properly and are in a suitable state or condition to begin processing operations. Additional plant clean-ups are carried out during the noon hour and at any other time it becomes necessary to eliminate or prevent an insanitary condition from developing. This is one of the most important duties and functions of inspection personnel. Should certain areas or equipment not be clean, it is the duty of the inspector-in-charge to see that all oversights or omissions that may have occurred in the plant's sanitation program are corrected immediately, or to deny the use of such equipment or facilities until such time as they receive the proper attention and cleaning.

Once the day's operation has begun, inspection personnel are concerned with the problem of maintaining plant sanitation at all times to see that proper operating procedures are in use. Such problems are many and varied, depending on the type of operation.

In slaughtering and eviscerating plants there are many items of major concern that must be properly carried out or executed if the plant is to be successful in producing a clean, wholesome, ready-to-cook product. The bleeding operation must be adequate to insure proper confinement of blood to a relatively small area. Poultry must be allowed enough time to bleed out and to insure that breathing has stopped prior to scalding to prevent aspiration of scald water into the respiratory system of the bird. Attention must be given to the scalding equipment, itself, while in use. Adequate amounts of fresh water must be introduced into the scalding and enough allowed to overflow to maintain the scald water in as clean a state as is possible, while still allowing the birds to receive an effective scald. No direct water connections are allowed between the scalding and the potable water line. Fresh water must enter the scalding from above from a broken connection in order to prevent the possibility of contaminating the potable water line should a drop in pressure within the water line occur and allow the back flow of scald water.

After bleeding, scalding, and picking the birds must go through washing equipment so that the outside surface of the carcass is completely washed before evisceration occurs. No unnecessary cuts are allowed until the outside wash of each bird is complete. Feet may not be removed until the outside wash is finished to prevent the washing away of the joint fluids which may be indicative of certain disease processes.

The method of opening cut for evisceration purposes is extremely important in maintaining good sanitation and prevention of contamination of birds and hands of plant personnel conducting these operations. Great care must be exercised to see that the intestines are not cut or nicked in the opening of carcasses. Cuts should be centered as much as possible to prevent the opening of the thigh area which may lead to the formation of pockets in which excess amounts of water or contaminating agents may lodge or collect.

After eviscerating, the bile sac must be carefully removed from the liver to prevent contamination of the carcass with the bile fluid. Lungs and oil sacs must be completely removed and the carcass will then undergo a thorough inside and outside final wash before it is placed in clean chilling media to cool the bird to the required temperature before packaging.

Inspection personnel are concerned with additional sanitation responsibilities to see that plants conduct a good control program to keep all types of vermin, such as rats, flies and cockroaches, from gaining entrance into the plant. Pest control is a vital necessity to insure that all edible products will be protected, both directly and indirectly, from such contaminating agents. Therefore, it is extremely important to see that good housekeeping practices are followed to reduce the possibility of breeding places or other conditions that may be attractive to such vermin. Plants where poor sanitation practices are allowed, such as allowing offal and inedible waste or refuse to accumulate, are apt to be confronted with a serious vermin control problem.

These are some of the sanitation requirements and problems that are encountered every day by inspection personnel who are charged with the responsibility of enforcing the regulations in poultry processing plants operating under the Poultry Products Inspection Act.

The establishment and maintenance of good sanitation and sanitation practices in the large number of poultry plants that are subject to Public Law 85-172 has not been an easy task. The Department requests and receives, in the great majority of cases, the wholehearted cooperation of plant management

in carrying out the different phases of plant sanitation and other duties required under the regulations governing the Act. This always makes the job easier for the Department and the best results are realized when a spirit of cooperation exists between inspection personnel and plant management. The maintenance of good sanitation is a continuous process, and continued improvements in inspection and

sanitary techniques are resulting in cleaner, more efficient, plants, producing products of a higher quality than ever before. The protection of human health is the first and principal object of the inspection program. Consumers benefit by assurance that the poultry they are buying and eating are wholesome and have been prepared under clean, sanitary conditions.

## THE LAND-GRANT SYSTEM AND THE MILK SANITATION PROGRAM<sup>1</sup>

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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.

During the coming year many academic, professional, business and trade groups will recognize the 100th anniversary of the Morrill Act. When President Lincoln signed the Act on July 2, 1862, neither he nor the authors and supporters of this momentous legislative measure — particularly Justin S. Morrill of Vermont and Jonathan B. Turner of Illinois — could possibly have assessed the result we see about us today in the form of the Land-Grant college system and its accomplishments. Yet a century later, we must give them credit for having exercised profound vision and imagination when they acted to convert part of this nation's land resources to the development of its potentially greater human resources through education.

Judged by economic and political philosophies of our age, the Morrill Act seems reasonable and logical enough. Seen on the background of the social traditions of the 1860's, it must be regarded as a

major feat of statesmanship. Measured by our yardstick of economic values, the grant may look modest. It involved an endowment to each state of 30,000 acres of land (at an average value of \$1.25 per acre) for each congressional representative. Time and economic growth increased the value of this endowment, but it was even more important that an idea had been born and that a large part of the republic's natural bounty was committed to promote liberal and practical education of the agricultural and industrial classes.

In our admiration for the originators of the Land-Grant college idea, we must not forget the state legislatures who eventually recognized their obligation to support the colleges. Nor must we forget the several generations of administrators, teachers and researchers who translated the idea into action and husbanded the resources so that the Land-Grant college system became this nation's largest single source of trained and educated manpower. The 68 Land-Grant universities today enroll 20 percent of this country's college students. They grant 40 percent of all doctorates, 50 percent of the doctorates in sciences, engineering and health professions, all of those in agriculture and 25 percent of those in arts, languages, business and commerce.

The kind of practical training envisioned in the Morrill Act set the Land-Grant colleges apart from the older universities in the United States and Europe. It emphasized professional and specialized education designed to meet the needs of a young, vigorous and growing nation wanting to apply the discoveries of science and technology to its life and growth. It was unique in its concept of conserving, creating and transmitting knowledge through a wide variety of graduate and undergraduate curricula, through basic and applied research and through extension of the university teaching beyond the campus

<sup>1</sup>Presented at the 48th Annual Meeting of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC., at Des Moines, Iowa, August 14-17, 1961.