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The Federal meat and poultry inspection program provides for inspection of meat and poultry products moving in interstate and foreign commerce. Inspection is essential to protect the health and welfare of consumers and is carried out at slaughter and processing plants. The total Federal meat and poultry inspection cost has increased rapidly in the last several years--from about \$135 million in 1970 to about \$242 million in 1976--an increase of 79%. Findings/Conclusions: Under current procedures of the Department of Agriculture's Food Safety and Quality Service, most processing plants are inspected daily, even though an inspector may only spend a few hours each day at a plant. The Service's inspection resources could be used more efficiently and effectively if inspection frequency at processing plants was tailored to the inspection needs of individual plants. Periodic unannounced inspections would allow the Service to inspect more plants or inspect plants needing upgrading more frequently. Upgrading certain plants would provide greater assurance that consumers are getting wholesome, unadulterated, and properly branded products. Any system of periodic unannounced inspections should require an inplant quality-control system. The authority to require plant managements to develop and carry out adequate, reliable quality-control systems should be coupled with authority to apply strong penalties or sanctions when plant managements fail to carry out their responsibilities under these systems. Recommendations: Congress should amend the Federal Meat Inspection Act and the Poultry Products Inspection Act to

authorize the Secretary of Agriculture to: make periodic unannounced inspections of meat and poultry processing plants; require meat and poultry processing plants to develop and implement quality-control systems; and withdraw inspection or impose civil penalties of up to \$100,000 for processing plants failing to take appropriate action when the quality-control system identifies a deficiency or when plants fail to comply with inspection requirements. If Congress amends the acts, the Secretary should develop criteria for deciding the optimal inspection frequency for individual processing plants and for assessing penalties within the provisions of the acts. The Secretary should, in cooperation with industry, develop criteria for determining the quality-control systems needed at various types and sizes of processing plants. (Author/SW)

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REPORT TO THE CONGRESS

*BY THE COMPTROLLER GENERAL
OF THE UNITED STATES*

A Better Way For The Department Of Agriculture To Inspect Meat And Poultry Processing Plants

Agriculture's resources could be used more efficiently and effectively if inspection frequency at meat and poultry processing plants was tailored to the inspection needs of individual plants. Periodic unannounced inspections would allow Agriculture to inspect more plants or inspect plants needing upgrading more frequently.

One requirement in any system of periodic unannounced inspections should be the in-plant quality-control system. Effective quality-control systems help plant managements control operations better and provide increased assurance to consumers that they are receiving wholesome, unadulterated, and properly branded products.

The Congress should authorize the Secretary of Agriculture to (1) make periodic unannounced inspections of meat and poultry processing plants, (2) require meat and poultry processing plants to develop and implement quality-control systems, and (3) impose strong penalties for plants failing to comply with inspection requirements.



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-163450

To the President of the Senate and the
Speaker of the House of Representatives

This report discusses the Department of Agriculture's practice of inspecting most meat and poultry processing plants daily, even though an inspector may only spend a few hours each day at some plants. We made this review to determine if the Department's inspection resources could be used more efficiently and effectively if inspection frequency was tailored to the inspection needs of individual plants.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

We are sending copies of this report to the Acting Director, Office of Management and Budget, and to the Secretary of Agriculture.

Comptroller General
of the United States

D I G E S T

The Congress should amend the Federal Meat Inspection Act and the Poultry Products Inspection Act to authorize the Secretary of Agriculture to:

- Make periodic unannounced inspections of meat and poultry processing plants, tailoring the inspection frequency to the inspection needs of individual plants.
- Require meat and poultry processing plants to develop and implement quality-control systems.
- Withdraw inspection or impose civil penalties of up to \$100,000 for processing plants failing to take appropriate action when the quality-control system identifies a deficiency or when plants fail to comply with inspection requirements. (See p. 35.)

Suggested legislative language appears in appendixes VII and VIII.

If the Congress amends the acts as recommended above, the Secretary of Agriculture should develop criteria for deciding the optimal inspection frequency for individual processing plants and for assessing penalties, within the provisions of the acts, when plants do not comply with inspection requirements. Also, the Secretary should, in cooperation with industry, develop criteria for determining the quality-control systems needed at various types and sizes of processing plants. (See pp. 35 and 36.)

The Federal Meat Inspection Act and the Poultry Products Inspection Act require the Secretary of Agriculture to inspect the slaughter of livestock and poultry and the processing of meat and poultry products shipped interstate or to foreign markets. For processing plants, Agriculture has determined that, to achieve the degree of control and supervision intended

by the acts, most need to be inspected at least daily, even though an inspector may only spend a few hours each day at a plant. The total Federal meat and poultry inspection cost has increased from about \$135 million in 1970 to about \$242 million in 1976--an increase of 79 percent. (See pp. 1 and 3.)

As of June 30, 1977, Agriculture had taken over 25 State poultry and 17 State meat inspection programs in 25 States. This takeover is expected to continue because the States have limited resources. Unless Agriculture changes its basic approach to inspections, these takeovers will contribute to the rapidly increasing cost of Federal meat and poultry inspection and put a strain on Agriculture's inspection resources. (See p. 28.)

Because of efforts by Agriculture and the meat and poultry industry, improvements have been made in processing plant sanitary conditions, plant equipment and facilities, and processing methods. As a result, there is an opportunity to change Agriculture's practice of inspecting most meat and poultry processing plants daily. (See p. 7.)

Periodic unannounced inspections would allow Agriculture to inspect more plants or inspect plants needing upgrading more frequently. Upgrading certain plants would provide greater assurance that consumers are getting wholesome, unadulterated, and properly branded products. (See p. 27.)

One requirement in any system of periodic unannounced inspections should be the inplant quality-control system. Although many plants have implemented quality-control programs for certain aspects of their operations, currently the acts do not authorize the Secretary to require plants to have quality-control systems which could, in the absence of an inspector, insure that products are prepared in compliance with plant standards and Agriculture requirements and that deficiencies are identified and corrected by the plant so that unacceptable products do not reach the consumer. (See p. 21.)

Effective quality-control systems help plant managements to control operations better and insure that quality products are produced; provide increased assurance to consumers that they are receiving wholesome, unadulterated, and properly branded products; and would permit Agriculture to use its inspection resources more efficiently and effectively. (See pp. 22 and 33.)

In June 1977 Agriculture released the results of a consultant report on the Federal meat and poultry inspection program. The consultant's conclusions are similar to GAO's proposals with respect to (1) providing Agriculture with a more flexible approach for inspecting meat and poultry processing plants, (2) requiring quality control at federally inspected meat and poultry processing plants, and (3) the need for civil penalties to be used as a tool to insure compliance with processing inspection requirements. (See p. 31.)

Agriculture said it was unable to take any position on GAO's recommendations because it was soliciting views of all affected parties on similar recommendations contained in the consultant's report. Agriculture said that GAO's recommendations would be considered along with other views received during the public evaluation process before any steps are taken toward implementation. (See p. 36.)

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ABBREVIATIONS

FDA	Food and Drug Administration
GAO	General Accounting Office
USDA	United States Department of Agriculture

CHAPTER 1

INTRODUCTION

The Federal meat and poultry inspection program provides for inspection of meat and poultry products moving in interstate and foreign commerce. Inspection is essential to protect the health and welfare of consumers and is carried out at slaughter and processing plants. The total Federal meat and poultry inspection cost has increased rapidly in the last several years--from about \$135 million in 1970 to about \$242 million in 1976--an increase of 79 percent.

We reviewed Federal inspection activities at meat and poultry processing plants--plants which further process meat and poultry after slaughter into consumer products--to find out if greater efficiency could be achieved. The following consultants with expertise in quality control and Federal meat and poultry inspection requirements assisted in this review.

Dr. Aaron L. Reynolds, Jr.
Associate Professor
Food Science Department
Michigan State University

Dr. Gilbert Wise
Doctor of Veterinary Medicine
Former Associate Administrator of the
Animal and Plant Health Inspection
Service, Department of Agriculture

This report discusses the potential for more efficient and effective use of inspection resources at federally inspected meat and poultry processing plants.

MEAT AND POULTRY INSPECTION LAWS

The Federal Meat Inspection Act, as amended (21 U.S.C. 601 et seq.), and the Poultry Products Inspection Act, as amended (21 U.S.C. 451 et seq.), require the Secretary of Agriculture to inspect the slaughter of livestock and poultry and the processing of meat and poultry products shipped interstate or to foreign markets. The primary objective of these laws is to insure that meat and poultry products distributed to consumers are wholesome, not adulterated, and properly marked, labeled, and packaged.

These acts authorize the Secretary to cooperate with States in developing and administering State meat and poultry inspection programs which are at least "equal to" the inspection requirements under the acts. Products produced

in State-inspected plants can only be shipped intrastate. If a State fails to develop and effectively administer an equal-to program, the acts provide for Federal takeover of the State's inspection program.

Under Federal-State cooperative agreements authorized by Public Law 87-718, approved September 28, 1962, 70 Stat. 663, 7 U.S.C. 450, commonly referred to as the Talmadge-Aiken Act, federally trained and licensed State inspectors make meat and poultry inspections for the Federal Government at certain plants. Talmadge-Aiken plants are subject to periodic reviews by Federal supervisors and the plants are permitted to ship their products interstate.

INSPECTION REQUIREMENTS

Inspection falls into four general categories: ante-mortem, post-mortem, sanitation, and product processing. Ante-mortem inspection is an examination for health and fitness conducted before slaughter. The Meat Act requires ante-mortem inspection of each animal, whereas the Poultry Act requires ante-mortem inspection only when the inspector considers it necessary.

Both acts require inspection of each carcass after slaughter and before it enters processing operations. This post-mortem inspection establishes the wholesomeness of carcasses for human consumption. Carcasses or parts not passing inspection are condemned and removed from the human food chain. Carcasses may be reinspected at any time to insure that they remain unadulterated after the post-mortem inspection.

The acts provide for U.S. Department of Agriculture (USDA) supervision of plant sanitation conditions at both slaughter and processing plants, and the Secretary has established requirements for equipment, facilities, and sanitary operating procedures. Inspection may be refused to any plant that fails to comply with these requirements, thereby preventing production and shipping of products.

Carcasses entering processing operations are cut up or made into such products as sausages, frozen dinners, canned products, and soup. Basically, there are five different types of processing operations--boning, breaking, and cutting; curing and smoking meats; formulating meat products; processing poultry products; and canning products. (These operations are discussed in detail in app. I.)

The Meat Act requires inspection of all processed meat products prepared for commerce. The Poultry Act authorizes, but does not require, inspection of all processed poultry products. The acts do not prescribe the specific method of inspection, but all products are subject to inspection as often as deemed necessary. USDA believes that control over the entry of carcasses and other materials into processing plants, supervision or spot checks of manufacturing processes and procedures, and sampling of finished products constitute compliance with the acts.

The Meat Act requires inspectors, after they have determined whether the meat food product is adulterated, to mark all inspected processed products as either "inspected and passed" or "inspected and condemned" and to be present when condemned products are destroyed. The Poultry Act requires inspectors to supervise the destruction of all condemned products and the reprocessing of adulterated products which, through reprocessing, can be made unadulterated. Both acts provide for USDA supervision of the packaging and labeling of processed products.

The acts do not specifically say how often processing plants should be inspected. However, USDA has determined that, to achieve the degree of control and supervision intended by the acts, most processing plants need to be inspected at least daily, even though an inspector may only spend a few hours each day at a plant. Some plants are inspected less frequently, depending on the size and type of processing activities. For example, plants with only limited operations, such as slicing or packaging and labeling, may be inspected from twice a week to once every 2 weeks. According to USDA officials, only about 100 of the more than 6,000 processing plants nationwide have less-than-daily inspection.

PROGRAM ORGANIZATION AND ADMINISTRATION

USDA's Food Safety and Quality Service administers the meat and poultry inspection program. ^{1/} The program is carried out by Service headquarters in Washington D.C.;

^{1/}Until March 1977, the Animal and Plant Health Inspection Service administered the program. Secretary of Agriculture's Memorandum No. 1914, dated March 14, 1977, assigned those functions relating to meat and poultry inspection to the newly created Food Safety and Quality Service.

and by five regional offices in Alameda, California; Atlanta, Georgia; Dallas, Texas; Des Moines, Iowa; and Philadelphia, Pennsylvania. Each region is divided into areas of one or more States and each area is divided into circuits. As of June 30, 1977, there were 36 area offices and 234 circuits.

Service inspectors include both veterinarians and food inspectors. The veterinarian is the medical and food hygiene authority for slaughter and processing operations, whereas the food inspector is a technician trained in recognizing a normal product. Any product deviating from normal is set aside for further inspection and final disposition.

The assignment of a veterinarian or a food inspector to a plant is determined by the volume and type of products processed and the plant's location. Veterinarians are in charge of inspection at slaughter plants and are assigned as supervisors in any circuit with plants conducting slaughter. Nonveterinarians may be assigned as supervisors in circuits composed entirely of processing plants. Circuit supervisors provide direction and supervision to inplant inspectors to insure that inspection standards, regulations, and procedures are uniformly followed in every plant within the circuit.

The Service has two kinds of inspection assignments at processing plants--resident and patrol. A resident inspector spends full time at a plant, whereas a patrol inspector divides his time between several plants. The type of inspection assignment and the amount of inspection time allotted to each processing plant is determined periodically using work measurement standards which consider such factors as plant size, the number and types of equipment, and the type of processing activities.

As of June 30, 1977, 641 slaughter-only plants, 1,477 combination slaughter and processing plants, and 4,985 processing-only plants were under Federal inspection. This represents an increase of 73, 106, and 88 percent, respectively, since 1970. As of June 30, 1977, the Service's full-time inspection personnel included 1,413 veterinarians and 7,633 food inspectors, an increase of 8 and 33 percent, respectively, since 1970. In addition, the Service was using 61 veterinarians and 912 food inspectors part-time. Part-time personnel are used during periods of increased production or to replace employees on leave.

PROGRAM COSTS

The Federal Government, State governments, and the meat and poultry industry share in the expense of meat and poultry inspections. The Federal Government pays the cost of Federal inspections, except for overtime and holiday costs which are charged to plants. The Federal Government also makes grants, currently 50 percent of State inspection costs, to those States that have developed equal-to inspection programs or that conduct inspection at Talmadge-Aiken plants. The acts specify that Federal grants to States with equal-to inspection programs may not exceed 50 percent of State inspection costs, whereas the Talmadge-Aiken Act does not specify such a limitation.

Federal inspection costs increased about 79 percent between 1970 and 1976. The major factors contributing to this increase have been inflation and the Federal takeover of State inspection programs. In fiscal year 1970 the cost of Federal inspections totaled about \$135 million, including \$21 million reimbursed to USDA and grants to States of \$19 million. In fiscal year 1976 the cost of Federal inspections totaled about \$242 million, including \$26 million reimbursed to USDA and grants to States of \$29 million.

QUALITY ASSURANCE PROGRAM

The Service's "Quality Assurance Program" allows plants to request approval of quality-control procedures for certain aspects of a processing plant's operations. The program's basic concept is that the manufacturer is responsible for producing products in compliance with all regulatory requirements. The quality-control concept emphasizes that the manufacturer must control his process and that the inspectors monitor procedures to see that the controls are being followed.

As of June 1977, over 1,600 quality-control programs for about 42 types of operations had been approved at federally inspected processing plants. (See app. II.) Three common types approved are microbiological, fat and added water, and net weight.

PREVIOUS GAO REPORTS

We have issued several reports on the meat and poultry inspection program. (See app. III.) These reports discussed sanitation in federally and State-inspected plants and ways to improve administration of the meat and poultry inspection program.

CHAPTER 2

POTENTIAL FOR PERIODIC UNANNOUNCED INSPECTIONS

The Food Safety and Quality Service's inspection resources could be used more efficiently and effectively if inspection frequency at processing plants was tailored to the inspection needs of individual plants. Our review of Service inspection records and our observations of inspection activities at 24 plants in three States--California, Michigan, and Ohio--indicated that, although the Service inspected each of the plants at least daily, the need for inspection frequency differed, depending on

- the existence of reliable quality-control programs,
- the plant management's attitude toward complying with inspection requirements and cooperating with Service inspectors in correcting deficiencies and maintaining acceptable sanitary conditions, and
- the plant's history of compliance with inspection requirements.

Plants where management has accepted its responsibility for producing wholesome, unadulterated, and properly branded products under sanitary plant conditions have a high potential for periodic unannounced inspection rather than daily inspections. Periodic unannounced inspections would allow the Service to inspect more plants or inspect plants needing upgrading more frequently.

Under current Service procedures, most processing plants are inspected daily, even though an inspector may only spend a few hours each day at a plant. The Meat and Poultry Acts, however, do not state how often processing plants should be inspected. Tailoring inspection frequency to the inspection needs of individual plants would be a major change in the Service's tradition of daily inspections. Therefore, because of the importance of inspection to consumers and the longstanding congressional interest in the program, such a change should be specifically authorized by the Congress. This would provide an opportunity for the public and industry to present their views on such a major change.

One requirement in any system of periodic unannounced inspections should be the inplant quality-control system. Although many plants have quality-control programs for certain aspects of their operations, the acts do not authorize the Secretary to require plant managements to develop and implement quality-control systems which could, in the absence of an inspector, insure that products are prepared in compliance with plant standards and Service requirements and

that deficiencies are identified and corrected by the plant so that unacceptable products do not reach the consumer. Such authority is needed if the Service is to institute a program of periodic unannounced inspections at processing plants.

Effective quality-control systems help plant managements to control operations better and insure that quality products are produced; provide increased assurance to consumers that they are receiving wholesome, unadulterated, and properly branded products; and would permit the Service to reduce inspection frequency.

Additionally, the authority to require plant managements to develop and implement adequate and reliable quality-control systems should be coupled with authority for the Service to apply strong penalties or sanctions when plant managements fail to carry out their responsibilities under these systems.

WHERE INSPECTION AND INDUSTRY ARE TODAY

Because of efforts by the Service and the meat and poultry industry, improvements have been made in plant sanitary conditions, plant equipment and facilities, and processing methods. Service inspection reports on processing plants in California, Michigan, and Ohio showed that, overall plants are in good condition. As a result, there is an opportunity to change the Service's practice of inspecting most meat and poultry processing plants daily.

Plant conditions and processing methods have improved

Before the Service provides inspection services, a responsible plant official signs a statement agreeing to conform strictly to all Federal regulations and orders pertaining to inspection. According to these regulations, plant management is responsible for producing wholesome, unadulterated, and properly branded products under sanitary plant conditions.

Contributing to management's ability to meet its responsibilities have been (1) the technological advances the industry has made in plant facilities and equipment and in automated processing operations and (2) the improvements resulting from the Service's establishing and enforcing inspection requirements that insure the production of wholesome, unadulterated products under sanitary plant conditions.

Plant facilities and equipment

Before receiving Federal inspection, plant management is required by the meat and poultry regulations to submit blueprints of drawings and specifications regarding the design and construction of facilities. These blueprints are reviewed to insure that current and applicable sanitary standards have been observed in their design. For example, only materials that can be effectively cleaned (such as glazed tile, rustproof metal, and smooth wood or plaster in good repair) are acceptable for walls. Ceilings must be moisture-resistant and free from scaling paint that might fall into the products. Materials which can be easily and effectively cleaned lessen the opportunity for bacterial buildup which could cause product contamination.

Plant management is also required to submit assembly-type drawings of equipment and a list of materials from which the parts are made. This information is reviewed to insure that the materials and construction will facilitate thorough cleaning. Stainless steel, galvanized steel, or aluminum equipment is now required in all new meat and poultry processing plants. This type of equipment is advantageous because it lasts longer and is easier to clean. For example, wooden tables and chairs are not acceptable because wood absorbs meat juices and fats and cannot be thoroughly cleaned. Manufacturers have also developed equipment which is much easier to disassemble and clean.

In recent years, firms have installed automated production lines for many products, thus reducing or eliminating human handling and chances of contamination.

Quality control and laboratory testing

Industry has developed quality-control systems that allow management to monitor its entire plant processing operations and quality-control programs for specific operations. These systems help insure that wholesome, unadulterated, and properly branded products are produced.

Plant management's use of laboratory analyses to identify high bacteria counts on machinery and equipment for sanitation purposes is becoming widespread in the industry. Laboratory analyses are also used to measure bacteria growth on finished products to assist in determining "shelf life," and to measure fat, protein, and added water in products.

Service inspections show plants overall are in good condition

The Service's circuit supervisors review federally inspected plants at least annually. These reviews are used primarily by area and regional personnel to assess plant conditions and compliance with Service requirements. The circuit supervisor rates each plant as acceptable or unacceptable, on the basis of a review of individual areas of the plant's operation. These areas, which are discussed in appendix IV, are ante-mortem and post-mortem inspection (slaughter plants only), reinspection, sanitation, potable water, sewage and waste disposal control, pest control, and condemned and inedible material control.

A compliance staff, which reports directly to the Service's Deputy Administrator, also reviews the adequacy of inspection at randomly selected federally inspected plants. Headquarters personnel use the review results to determine the effectiveness of the inspection program. The frequency of followup reviews depends on the number of deficiencies previously found in the plant. Plants are categorized as either 1, 2, 3, or 4, based on the type and number of deficiencies found, with 1 the worst and 4 the best category. (See app. V for a discussion of the Service's criteria for rating plants during inplant compliance reviews.)

To assess conditions at processing plants, we examined reports on the Service's 1975 and 1976 annual reviews of processing plants in California, Michigan, and Ohio. None of the 626 plants in California, the 94 plants in Ohio, or the 68 plants in Michigan received an overall unacceptable rating.

We also examined the Service's reports on compliance reviews made in the three States from February 1972 to July 1976. The following table shows the number of inplant compliance reviews and how the Service rated the plants.

Category	California		Michigan		Ohio		Total	
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent
4 (best)	48	17	15	18	28	27	92	20
3	162	59	45	51	52	50	259	55
2	59	21	25	29	22	21	106	23
1 (worst)	8	3	2	2	2	2	12	2
Total	<u>277</u>	<u>100</u>	<u>88</u>	<u>100</u>	<u>104</u>	<u>100</u>	<u>469</u>	<u>100</u>

As the table shows, 75 percent of the plants were rated in categories 3 and 4--the highest ratings. Only 2 percent were in category 1, the lowest category.

To find out whether the annual and compliance reviews generally reflected actual plant conditions, we visited 70 randomly selected processing plants in the three States--41 in California, 14 in Ohio, and 15 in Michigan. A Service circuit supervisor accompanied us during our plant visits and, at our request, made an annual plant review. None of the 70 plants received an overall unacceptable rating. Only 10 received unacceptable ratings in one or more individual areas of plant operations.

Inspection needs differ at individual plants

We reviewed records and observed inspection activities at 24 processing plants to determine their potential for periodic unannounced inspection. We selected 18 of the plants from the 70 plants we previously visited and 6 other plants in the 3 States considered by the Service area supervisors to have excellent quality-control programs.

The plants included some which removed bones from meat and others which prepared several different products using complex formulations. (App. I explains the different types of processing operations.)

The following table shows the types of processing operations included in the 24 plants visited.

<u>Type of processing operation</u>	<u>Number of plants</u>
Formulated meat products	10
Curing and smoking	6
Canned meat products	3
Processed poultry products	3
Boning, breaking, and cutting	<u>2</u>
Total	<u>24</u>

The processing plants also included both large and small processors ranging in average weekly production from several thousand to several million pounds. The following table shows the average weekly production of the 24 plants visited.

<u>Average weekly production (pounds)</u>	<u>Number of plants</u>
Up to 50,000	9
50,000 to 199,999	5
200,000 to 999,999	6
Over 1 million	<u>4</u>
Total	<u>24</u>

The plants also included different types of inspection assignments. Some plants had one or more full-time inspectors whereas others were under a patrol assignment, with the inspector responsible for up to five plants. The following table shows the different types of assignments for the 24 plants.

<u>Type of assignment</u>	<u>Number of plants</u>
Resident (full-time inspection)	1
Patrol	18
Combination (resident and patrol)	<u>5</u>
Total	<u>24</u>

Each of the plants had some form of quality control. Some plants had formalized programs with large staffs and laboratory facilities independent from production. Other plants had informal quality control where the plant owner made sure plant and Service requirements were being met.

As the following table shows, 11 of the plants had from one to four Service-approved quality-control programs for specific processing operations; 13 had no approved programs.

<u>Number of approved quality-control programs</u>	<u>Number of plants</u>
None	13
One	5
Two	3
Three	1
Four	<u>2</u>
Total	<u>24</u>

Working closely with our experts in quality control and inspection requirements, we evaluated the 24 plants and found that:

- In 18 plants, plant managements had fully accepted their responsibility for producing wholesome, unadulterated products by (1) establishing quality-control systems or programs to insure compliance with plant standards and Service requirements, (2) having a good attitude toward compliance and fully cooperating with the Service inspector in correcting deficiencies and maintaining acceptable sanitary conditions, and (3) maintaining a good history of plant compliance with inspection requirements. After they develop appropriate records on quality control and demonstrate to the Service the reliability of their quality-control systems in the absence of an inspector, such plants should have a high potential for inspection on a periodic unannounced basis.
- In the other 6 plants, which generally produced wholesome products, plant managements had not fully accepted their responsibility because they (1) relied on the Service inspector for quality control, (2) would only do what the inspector required in maintaining proper sanitary conditions, and (3) did not maintain a good history of plant compliance with inspection requirements.

Inspectors' activities

Each of the 24 plants was inspected daily to insure that wholesome products were being produced under sanitary plant conditions. At these plants, inspectors emphasized

- control over the entry of raw materials,
- plant sanitation,
- product formulation, and
- labeling and net weights.

Control over entry of raw materials--The inspector monitors and controls the meat and poultry products entering a processing plant to determine whether products are wholesome and have been previously inspected and passed. To do this, the inspector reviews plant receiving logs and spot checks incoming materials. In cases where products entering a plant are found to be contaminated, the inspector normally requires the products to be condemned.

Plant sanitation--Before processing operations start, the inspector normally makes a daily sanitation inspection. (If a plant is inspected on a patrol assignment, the inspector may not perform a daily preoperational sanitation inspection.) The inspector checks floors, equipment, and overhead tracking and looks for rodent and insect infestation. During processing, the inspector checks employees for suitable clothing and observes their work and hygienic practices. In addition, the plant's overall operation is reviewed for sanitation problems that could lead to product contamination. This is usually done in relation with the other inspection activities.

The inspector prepares a daily sanitation report which lists the problems found and the corrective action taken by the plant. When processing equipment or facilities are not clean, the inspector is to prohibit use of the equipment or facilities until plant employees correct the problem.

A midshift cleanup of all equipment directly contacting heat-processed products is required, unless the plant has a Service-approved microbiological control program. If a program has been approved, the inspector periodically monitors the program to determine whether the plant (1) follows all procedures, (2) uses the program to identify potential weaknesses or deviations, and (3) makes appropriate corrections if necessary.

Product formulation--The Service sets standards for product identity and composition, and the inspector monitors the plant's formulas to help insure that they meet the standards. For example, pork sausage and hot dogs must contain specified amounts of meat and the Service limits the amount of fat and added water they can contain. The inspector checks product composition by monitoring formulas and by sending samples to Service laboratories for analysis. When the inspector finds that a plant's product exceeds an allowable limit, the plant must change its procedure to insure that the products comply with Service requirements. The inspector may also require plants to rework products that do not comply.

When processing plants have an approved fat and added water quality-control program, plant personnel sample products and provide the results to the inspector. The plant is to take action on its own when the fat or water content exceeds prescribed limits. The inspector sends samples--as often as required by the approved program--to a Service laboratory to verify the plant's laboratory results.

Labeling and net weights--After products are processed, they are packaged and labeled. All labels must be approved by the Service to insure that they accurately state the ingredients in the product formula. The inspector periodically checks to insure that labels have been approved and are on the right product.

In addition, the inspector samples finished products to insure that the net weight is consistent with the weight shown on the label. Depending on the type of product and volume of production, the inspector generally checks a specified number of products each day. The inspector can increase or decrease his sample frequency as deemed necessary. If samples do not comply with standards, the inspector may require that the products be relabeled or reworked.

When a plant has an approved net weight program, its employees sample products and maintain records on the net weight results. When samples fall below prescribed limits, the plant is to take corrective action and notify the inspector. To insure the reliability of the approved net weight program, the inspector periodically observes plant sampling, weighing, and recording. In addition, the inspector periodically takes samples to verify plant sampling results.

Plants fully accepting their responsibility

Plants fully accepting their responsibility have established formal or informal quality-control systems or

programs to insure compliance with Service requirements. Many plants have installed sophisticated systems of quality control whereby specific plant employees--independent from production--carefully check on the quality and wholesomeness of products and sanitary conditions. Some plant quality-control systems far exceed Service requirements.

Inspectors at plants with established quality-control systems or programs have more information available to them on the plants' operations and extent of compliance with Service requirements. And, after the inspector knows he can rely on the plant, he can monitor the plant's control procedures by spot checking records to insure compliance.

Plants fully accepting their responsibility generally have excellent records of compliance with Service requirements. Plant management has a good attitude toward compliance and fully cooperates with the inspector. Plant management makes sure that its employees are properly trained and understand Service requirements. As a result, the inspector finds few, if any, sanitation deficiencies during his daily plant inspections. Problems which are observed are immediately corrected by plant management. Equally important, management takes the necessary action to insure that the problems do not recur. Management makes ongoing improvements and repairs to insure that its facilities stay in compliance with Service requirements. Improvements required by the inspector are completed timely.

The following two examples, taken from our 24-plant sample, illustrate plants which had fully accepted their responsibility to comply with Service requirements.

Plant A--This plant had an average weekly production of 275,000 pounds of pizzas in different sizes and ingredients. It employed 65 production people, in each of two shifts.

Service inspection consisted of one inspector for each shift. The first-shift patrol inspector spent about 6 hours at the plant and the second-shift resident inspector about 9 hours. One inspector told us that management had a cooperative attitude and an intense desire for quality.

The plant had a quality-control staff of nine. The quality-control manager had complete authority to stop production and withhold products not complying with Service requirements or plant standards. He reported directly to the company president and could overrule the plant manager.

The plant had a Service-approved net weight program but had extended net weight-testing efforts beyond the approved program to require more stringent tolerances than the Service. As an added assurance of quality, the plant took laboratory samples of all incoming meat and other ingredients to determine if they met company standards--which stressed higher quality than the Service required.

The Service's latest two annual reviews showed compliance with Service requirements. All plant inspection categories were rated acceptable.

The plant had a fine record of compliance with Service sanitation requirements. We examined the Service daily sanitation reports for 3 months and found they averaged about four deficiencies for each report. The problems identified were not significant; e.g., excessive water on floor, excessive frost in blast freezer, and dirty workhouse floor.

In addition, plant management had shown a willingness to cooperate with the inspector in making timely plant improvements. For example, all repairs or improvements agreed to by plant management and the Service inspectors for the 2-year period ended May 31, 1976, had been completed on time.

One inspector said the plant was very interested in producing a quality product and complying with Service requirements. The inspector told us that the need for his continuous presence at the plant was questionable because of the plant's fine quality-control system.

Our expert on inspection requirements commented that plant management appeared cooperative and very concerned about quality control.

Plant B--This plant was built to Service specifications in 1972. Although largely a wholesaler of chickens, it operated a small cut-up and repackaging operation. The plant had 15 employees and produced about 11,000 pounds of product each week.

The patrol inspector visited the plant about three times a day for a total of about 2 hours. The inspector characterized the plant as "an excellent, modern facility, with fine overall management." He told us there was little risk of product contamination or adulteration because the chickens were

- received only from federally inspected plants under Service seal,
- stored under refrigeration with very little cutting done, and
- shipped under Service seal.

This plant had a fine record of compliance with Service sanitation requirements. We examined the Service daily sanitation reports for 3 months and found they averaged less than one deficiency for each report. The problems identified by the inspector were not significant; e.g., trash cans not emptied, employee's apron not washed properly, and floor drains with a stale odor. The problems had been promptly corrected and most did not recur during the 3 months.

In addition, plant management had shown a willingness to cooperate with the inspector in making timely plant improvements. For example, most repairs or improvements agreed to by plant management and the inspector for the 2-year period ended May 31, 1976, had been completed on time by the plant.

The Service's latest two annual reviews and our review indicated satisfactory compliance with Service requirements. All plant inspection categories were rated acceptable. The Service circuit supervisor who accompanied us on our visit gave this plant the highest possible rating, meaning that plant conditions were so good that there was virtually no chance of product contamination.

Our expert on inspection requirements commented that management attitude and cooperation at this plant appeared to be excellent.

Plants not fully accepting their responsibility

Plants not fully accepting their responsibility substantially rely on the Service to provide quality control. Inspectors must continually supervise these plants to insure that wholesome, unadulterated products are produced under sanitary conditions. Plant management will only do what the inspector requires to maintain compliance with Service requirements but no more.

The inspector has to continually point out sanitation deficiencies to plant management. Plant management will

correct identified problems but normally will not take necessary actions to prevent recurrence. As a result, these plants have a large number of recurring sanitation deficiencies. Also, the plants make essential repairs and improvements only when required to by the inspector.

Inspectors refer to this type of operation as a "problem plant" because the inspector constantly struggles to get management to keep the plant in compliance with Service requirements.

The following examples illustrate plants which substantially relied on inspectors to insure compliance with Service requirements.

Plant C--Each week this plant produced over 2 million pounds of cured and smoked products, such as sausage, ham, and bacon. It operated two production shifts and had a total of 295 employees. Service inspection consisted of two resident inspectors on the first shift and one patrol inspector on the second shift. Each resident inspector spent about 10 hours a day at the plant and the patrol inspector divided his inspection time between this and three other plants.

This plant had an overall satisfactory record of compliance with Service requirements. However, our review of daily sanitation reports for 3 months showed an average of over nine deficiencies for each report. Further, our analysis of these reports showed a large number of recurring deficiencies. For example, during 1 month the inspector brought a particular sanitation problem to management's attention 14 times. Another sanitation problem--in a different month--had been pointed out to management nine times.

The plant review by the Service circuit supervisor who accompanied us on our visit indicated a risk of product contamination because of poor receiving practices. During our visit, plant employees were observed unloading bags of ice, to be used with edible products, on a dock used for trash disposal. The circuit supervisor ordered the ice removed from the dock and placed back on the delivery truck. Plant management was warned not to allow product materials to enter the plant through the trash disposal area.

Service inspection records showed that on several occasions processing lines had been shut down from 3 hours to a full day due to unsanitary conditions. According to the records, the unsanitary conditions included dead insects

and mold in storage tanks, metal shavings on the bacon slice line, and general disorganization and congestion in the storage area.

In July 1973, the entire plant had been closed for about half a day and inspection withheld by the inspector because a plant employee had removed a Service reject tag and had begun operating a production line that was not properly cleaned. The night inspector had placed the reject tag on a hot dog line because an oil-like substance was dripping from an overhead conveyor system contaminating the hot dogs. The plant foreman had been immediately notified and told to shut the line down until cleaned. The inspector then went about performing other inspection duties. When he returned several hours later, he found the hot dog line running while the product was being contaminated with the oil-like substance. The inspector, after consulting with his circuit supervisor, stopped all production and would not allow products to be shipped from the plant. Normal operations were allowed to resume only after the plant took corrective action.

Service inspection records showed that in 1974 the plant also had a problem in complying with Service limits on the amount of water added to hams. The circuit supervisor at that time said the plant had resolved the problem.

When we visited the plant in July 1976, it was again experiencing problems in complying with Service limits for water added to hams. One inspector told us that over half of the total inspection time spent in the plant was devoted to monitoring compliance with ham added-water limits. (Ham production was only about 13 percent of total plant production.) Both the plant inspectors and the circuit supervisor told us the plant could not be relied on to produce products in compliance with the standards without substantial Service surveillance.

Our expert on inspection requirements, after reviewing plant records, commented that the plant needed close inspection to maintain compliance with sanitation requirements and product standards.

Plant D--Each week this plant produced an estimated 61,000 pounds of sausage and smoked meats. The plant had 66 employees and operated three production shifts.

Two inspectors were assigned to the plant--a daytime resident inspector and a night patrol inspector. The resident inspector spent about 11 hours at the plant each day

and the patrol inspector visited the plant three times each night for a total of about 5 hours.

The plant had an overall satisfactory record of compliance with Service requirements. However, Service inspection records indicated a persistent sanitation problem which, according to our expert on inspection requirements, reflected a poor management attitude. Our analysis of Service daily sanitation reports showed a large number of recurring deficiencies. For example, the daily sanitation reports for 3 months showed a total of 26 recurring deficiencies. Several problems, such as dirty floors, had been pointed out to management as many as three to four times in 1 month.

The resident inspector told us that management was not very cooperative. He said that, in his opinion, management had a greater interest in production than in compliance with Service requirements and this attitude filtered down to the production employees. The inspector said that his function at the plant was similar to that of a policeman. He said that plant employees normally did not correct deficiencies unless specifically ordered to do so. For example, he said that he had to repeatedly order plant employees to condemn unwrapped products which had fallen on the floor.

The inspector told us that, because of plant management's failure to follow satisfactory plant cleanup procedures, he had to spend extra time insuring compliance with Service sanitation requirements.

Our expert on inspection requirements commented that management did not give enough attention to sanitation and proper operating practices. Instead, because of management's attitude, the plant relied to a large degree on the inspectors.

The preceding four examples show that the need for an inspectors' presence in processing plants differed, depending on existing quality-control systems or programs, plant management's attitude toward compliance, and the plant's history of compliance with inspection requirements. Although the inspection needs at the plants were different, the Service inspected all of the plants at least daily. We believe that those plants which have fully accepted their responsibility for producing wholesome, unadulterated products have a high potential for periodic unannounced, rather than daily, inspections.

QUALITY CONTROL CAN IMPROVE PLANT
EFFICIENCY AND, WITH PROPER PENALTIES,
PERMIT PERIODIC UNANNOUNCED INSPECTIONS

Quality-control systems, together with proper penalties, are essential if the Service is to inspect processing plants on a periodic (less-than-daily) unannounced basis. Our quality-control expert contributed extensively to the ideas expressed in the following sections on the essentials and benefits of quality control. (See app. VI for the full text of his paper on quality control.)

Essentials of quality control

Plant quality-control systems must insure that processing plants produce wholesome, unadulterated, and properly branded products by providing necessary controls over all critical phases of product handling and processing. The systems must insure that deficiencies are identified and procedures are corrected to help prevent unacceptable products from reaching the consumer.

A successful quality-control system requires the full support and commitment of plant management. The quality-control staff must be independent from production staff and report directly to top-level management in order to affirm the integrity of the system. Quality-control personnel must have the authority to stop production, hold shipments, and take immediate action to prevent unwholesome, adulterated, or misbranded products from being produced or shipped. An independent quality-control staff may not be necessary for small plants with low volume or limited facilities. At these plants, key production personnel could be made responsible for insuring that needed quality-control procedures are followed. These personnel must also have authority to stop production and hold shipments.

Plant management must establish quality specifications for each product and a defined procedure and/or specified sampling and testing method for each critical phase of product handling and processing. The specifications and procedures for each product and process would set quality limits and standards. Control procedures are necessary for each raw material, ingredient, product, process, waste material, and package. Areas for which controls would be applicable in most processing operations include temperatures, filth and foreign material, weights and measures, packaging condition, and labels. Constant supervision by quality-control personnel would be needed to detect deficiencies at critical points and to correct abnormalities.

Records would be required to show the type of test or observation, the number of tests, results of tests, acceptability of the product, and action taken when a deficiency was noted. Many plants already maintain the types of records that would be required under a quality-control system.

Sanitation procedures must be established to cover the plant premises, the cleaning and sanitizing of all facilities and equipment, preoperational inspections, operational sanitation, personal hygiene, pest control, and waste disposal. Appropriate checks and records would be required for each area with persons in authority responsible. Followup inspections would be required by quality-control personnel with appropriate microbiological sampling and records to validate results.

Benefits of quality control

Effective quality-control systems benefit plant management, the Service, and consumers. Complete quality-control systems can provide not only greater protection to consumers but also a financial advantage to plants.

A quality-control system helps plant management to better control operations and insure that the product is meeting management's product quality expectations. There is less chance of poor quality products being sold because products which do not meet Service requirements or plant standards would be detected early and corrected before leaving the plant. Also, quality control can reduce variation in product quality and composition. This can improve a plant's competitive advantage because product shelf life is extended; raw ingredients cost controls are improved; and rework, returns, and plant and line shutdowns are reduced.

The Service would benefit from reliable inplant quality-control systems because such systems would permit the Service to reduce its inspection frequency and would improve consumer protection. Currently, some plants rely on Service inspectors to identify deficiencies and out-of-compliance products. Under a good quality-control system, plant management would be responsible for insuring that wholesome, unadulterated, and properly branded products are produced and for taking corrective action when the system identifies deficiencies and out-of-compliance products.

Instead of daily inspection, the Service's efforts-- record analyses, comparative sampling, and unannounced inspec-

tions--would be directed toward insuring that the plant's quality-control system was reliable. A reliable system is self-regulating because plant quality-control personnel continuously test products and plant conditions to insure compliance with inspection requirements and plant standards. Problems are identified and corrected automatically to insure that a quality product is produced even in the inspector's absence.

The Service could not achieve such comprehensive supervision and control under its existing inspection procedures and within its existing resources. For example, USDA officials estimate that more than half of the over 4,900 federally inspected processing-only plants are on daily patrol assignments. Inspectors would have to be assigned to each processing plant on a full-time basis to provide the same comprehensive supervision and inspection as could be provided by reliable quality-control systems.

Quality-control procedures vary for different types of operations

Quality-control procedures needed at individual plants will vary depending on the types of operations. Our quality-control expert identified specific procedures needed for various types of operations to insure that plants produce wholesome and unadulterated products. These procedures are outlined in appendix VI for the following five basic types of operations:

- boning, breaking, and cutting,
- formulated meat products,
- curing and smoking,
- processed poultry products, and
- canned meat products.

Examples of quality-control systems in effect today

The three following cases discuss quality-control systems at plants we visited. These cases illustrate plants having many of the essentials of good quality control.

Plant E--This plant had an average weekly production of 1.3 million pounds of various canned meat products and employed about 1,800 personnel. The plant operated two production shifts and one cleanup shift. About 90 personnel were in some phase of quality control.

Service-approved quality-control programs for net weight, nutritional labeling, and degree of fill were in effect for some products. The plant also had extensive quality-control programs for other areas, such as can integrity, fill, labeling, and incoming ingredients. According to our expert on inspection requirements, this plant comes as close to a totally controlled quality-control operation as can be found today among large multiproduct operations. One plant official believed that the company's long-term quality-control efforts were reflected in the tremendous success of the company's products and the company's outstanding reputation.

The plant's quality control was divided into two basic functions: (1) inplant inspection and (2) quality-control laboratories.

Each shift had a quality-control foreman responsible for overall quality assurance and sanitation. He reported directly to plant management and had authority to stop production and/or hold a product if program requirements were not being satisfied. Quality-control personnel monitored the blending of ingredients for all batches to insure that formulas and sanitation standards were followed. They also monitored processing areas to check for proper sanitation and general adherence to required processing practices. Checks were also made for proper can sealing, labeling, packaging, and product weight.

The plant's quality-control laboratory tested all incoming ingredients against the plant's criteria for quality, bacteria, protein, and fiber content. These tests were repeated after each processing step to insure compliance with quality standards throughout processing. The laboratory also tested finished products for spoilage, vacuum seal, and damage.

One inspector told us that the plant was extremely conscientious and cooperative in complying with its approved quality-control programs and had never cut corners on product quality, sanitation, or compliance with requirements. Inspection records at the plant showed no plant or line closings for the 3 years ended May 31, 1976.

All condemnations for the year ended May 31, 1976-- equaling about 0.5 percent of production--were initiated by the plant. Most condemnations were due to overcooking of products which, although not affecting product wholesomeness, could affect product quality. For a plant of this size and complexity, few deficiencies--an average of less than two for each report--were shown on the daily sanitation reports for the 3 months reviewed. One of the deficiencies was recurring, a burned out light bulb over a reconditioning line. Also, for the 2 years ended May 31, 1976, about 94 percent of the repairs and improvements determined necessary by plant management and the inspector were corrected on time.

According to Service work measurement standards, two full-time inspectors were needed for each production shift at the plant. However, only one full-time inspector was assigned to each production shift. One inspector told us that, with the plant's excellent quality control, the current level of inspection was adequate to insure compliance with Service requirements. Plant management said their quality control and continued high level of compliance with requirements reduced the need for continuous inspection.

Plant F--This plant had an average weekly production of 1.4 million pounds of various meat products and had over 200 employees. The plant had Service-approved quality-control programs for net weights, microbiological control and monitoring, fat and moisture, and boneless meat reinspection. In addition, the plant had quality-control programs for microbiological testing of incoming raw products and leakage tests for vacuum seals on finished products.

The plant had eight quality-control employees who were independent of production and reported directly to the quality-control manager. These personnel had authority to reject equipment and areas not suitable for processing and to require cleanup before continuing production. They could also retain products suspected of contamination.

Because of the microbiological control program, the plant was allowed to check bacteria levels and, if within prescribed limits, omit the required midshift cleaning and sanitizing of production lines. Also, the purpose of the microbiological program on incoming raw products was to keep bacteria levels to a minimum to prolong product shelf life.

The inspectors monitoring the approved quality-control programs had found no major problems. One inspector told us plant management was cooperative and conscientious in applying

the quality-control programs and the quality-control personnel detected and corrected deficiencies themselves.

Our quality-control expert who visited this plant concluded that the present quality-control system in the plant covered the critical areas although routine inspections now handled by the inspector and a complete records system were needed. Also, he felt that the plant realized the importance of maintaining controls to produce a consistent product and that it was unlikely that an inspector could physically monitor all phases of the operation in this large plant. Therefore, management must be relied on to institute control procedures which will insure compliance with the acts. (See app. VI, plant review A, p.73, for a summary of our expert's visit to this plant.)

Plant G--This plant had an average weekly production of 20,000 pounds of burritos and sausage pizza and employed six persons. The only quality-control program in this plant was a Service-approved net weight program. The plant manager who performed all of the work on the net weight program and reported directly to the plant owner told us the plant adopted the net weight program to reduce the quantity of products retained by the Service for being out of compliance. The plant was inspected on a patrol basis.

Under the net weight program, the product was to be checked at the beginning of the product run and each subsequent half hour. If a product was found to be below label weight, the line was to be stopped immediately, the problem corrected, and all products produced during the previous half hour were to be reworked.

In monitoring the net weight program, the inspector checked plant records, monitored plant procedures, sampled the product, and checked net weights once or twice a week. Plant and inspector records for the 3 months we reviewed showed that all products weighed were in compliance with standards.

Because of the small volume of processing, operations such as this plant do not warrant a complete quality-control system independent from production. However, quality-control procedures for sanitation and facility maintenance could be established and carried out by production personnel under the direction of the plant manager to insure compliance with inspection requirements.

Penalties to complement
quality control are needed

The Service is authorized to withdraw inspection (thereby preventing production and shipping of products) from a plant where products are found to be adulterated due to unsanitary plant conditions or where plant management fails to destroy condemned products. The Service can also retain products for further examination which are (1) found or believed to be adulterated or misbranded, (2) not inspected by the Service, or (3) intended to be distributed in violation of the acts. After further examination such products are either released, reworked, or condemned. The Meat and Poultry Acts also contain criminal provisions for numerous offenses, such as bribery of, or forcible assaults on, Service employees.

If the Secretary is authorized to require plant managements to have quality-control systems, as we are proposing, appropriate penalties should also be authorized for cases in which plant managements fail to carry out their responsibilities under these systems. Processors who have complete quality-control systems should be aware of processing problems and the quality of their products. When products or plant conditions do not comply with inspection requirements, management should take immediate action to correct the deficiencies. If action is not taken when a deficiency is identified, then the adulteration or noncompliance with inspection requirements should be considered deliberate and penalties must be imposed.

Penalties for violations by processing plants operating under a quality-control system must by necessity be economic deterrents, with severity far exceeding possible economic gains. Authority to withdraw inspection or impose civil penalties up to \$100,000 for failing to take appropriate action when the quality-control system identifies a deficiency or for failing to comply with inspection requirements would, in our opinion, be sufficient economic deterrents.

PERIODIC UNANNOUNCED INSPECTIONS
WOULD PERMIT MORE EFFICIENT AND
EFFECTIVE USE OF SERVICE RESOURCES

Tailoring inspections to the inspection needs of individual plants, with periodic unannounced inspections at those plants with reliable quality-control systems, good plant management attitudes toward compliance with Service requirements, and histories of compliance with inspection requirements would enable the Service to use its inspection resources more efficiently and effectively.

As of June 30, 1977, the Service had taken over 25 State poultry and 17 State meat inspection programs in 25 States. This takeover is expected to continue because the States have limited resources. Unless the Service changes its basic approach to inspections, these takeovers will contribute to the rapidly increasing cost of Federal meat and poultry inspection and put a strain on the Service's inspection resources. By tailoring inspection frequency to the inspection needs of individual processing plants, the Service could utilize its inspection resources not only more efficiently but also more effectively.

Periodic unannounced inspections would allow the Service to extend inspection to more plants or increase inspection coverage at plants needing upgrading. Upgrading certain plants would provide greater assurance that consumers are getting wholesome, unadulterated, and properly branded products.

Also, periodic unannounced inspections would increase the element of surprise. This and the stronger penalties for violations of inspection requirements would help encourage plant managements to fully accept their responsibility, even in the absence of an inspector.

USDA officials indicated that it would be desirable to have the flexibility for making periodic unannounced inspections. They stated, however, that such a change in USDA's practice of daily inspection should be specifically authorized by the Congress because of the importance of meat and poultry inspection to consumers and the longstanding interest of the Congress in the program.

OTHER FOOD INSPECTION PROGRAMS PROVIDE FLEXIBILITY IN DETERMINING INSPECTION FREQUENCY AT PLANTS

Although the Service generally has followed the practice of inspecting processing plants daily, there are other food inspection programs that do not have daily inspections. The State of California experimented with less-than-daily meat and poultry inspection before turning over its inspection program to the Federal Government in April 1976. The Food and Drug Administration (FDA) of the Department of Health, Education, and Welfare and the National Marine Fisheries Service of the Department of Commerce have less-than-daily inspection programs.

California's program

California--faced with serious shortages of inspection resources--started a program in 1970 to inspect selected meat and poultry processing plants on a periodic unannounced basis.

The 1967 amendments to the Meat and Poultry Acts required States to develop and administer meat and poultry inspection programs that were equal to requirements under the Federal laws. This meant that many smaller processing plants in California required additional inspection to bring them into compliance with Federal inspection requirements. This additional burden placed a tremendous strain on California's inspection resources.

Realizing that certain plants required more attention than others in meeting Federal requirements, California started a program to use its inspection resources more efficiently by making the plants--not the inspectors--more responsible for compliance with inspection requirements.

Under this program, 38 processing plants in the Sacramento-Stockton area were inspected less-than-daily for a year. To be considered for the program, plants had to have had a workload of less than 10 percent of an inspector work year. Accordingly, only the smaller processing plants were eligible for the program.

Plants with simple processing operations were placed on a once-a-week inspection schedule, and those with more complex operations were inspected about twice a week. All the plants had previously been on a patrol assignment with an inspector visiting them once or twice each day.

To insure that plants under the program complied with inspection requirements when the inspector was not there, strict penalties were imposed for violations found during an inspector's periodic visits. For example, if violations affecting the wholesomeness of the product were found during the inspector's visit, the product was automatically retained and plant operations suspended. Since only a roving State veterinarian could reverse the inspector's action, the result was normally 2 or 3 hours of plant downtime--very costly to a plant and a lesson well remembered.

Violations where no immediate product contamination existed were allowed to occur several times before the

inspector would take action. For example, four violations of this type in 1 month would be considered a violation affecting product wholesomeness. Plants continually failing to adhere to requirements could be closed down. For example, eight violations within a 2-month period where no immediate product contaminations existed resulted in a hearing to determine if withdrawal of inspection was warranted.

Quarterly inspections by Service officials rated these plants equal to federally inspected plants. Moreover, in most cases, State reviews gave the plants higher ratings than they had before the program.

According to one Service official, the program allowed better use of inspection resources because inspectors were not required to be at certain plants every day.

FDA inspection program

FDA enforces the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.). As part of its responsibilities, FDA inspects food plants on a random, unannounced basis. The FDA inspection normally covers all aspects of a firm's production process with raw materials, processes, finished products, and cleanliness of facilities and equipment being examined. FDA inspectors also try to promote good inplant quality control by advising plant management of potential problem areas. Inspections take from several hours to several weeks, depending on the size and complexity of the plant and type of inspection.

The frequency of FDA's inspections depends on a plant's past record of compliance and the hazards related to the processing activity. Plants producing high-risk foods, such as low-acid canned foods, may be inspected several times a year, whereas plants producing low-risk foods, such as breakfast cereals, may be inspected less frequently. On the average, FDA inspects food processing plants once every 3 years.

FDA can take a number of compliance actions against violative products, firms, and/or individuals. These actions can include recalls, seizures, injunctions, citations, or prosecutions.

National Marine Fisheries Service inspection program

Pursuant to authority contained in the Agricultural Marketing Act of 1946 (7 U.S.C. 1621 et seq.) and the Fish and Wildlife Act of 1956 (16 U.S.C. 742a et seq.), the National

Marine Fisheries Service provides inspection services to the fish industry on a voluntary, fee-reimbursable basis. The Fisheries Service has different types of inspection programs, such as product grading service, sanitary inspected fish establishment service, and packed under Federal inspection service. As of July 1976, about 5 percent of the fish plants which produced about 30 percent of all fish products in the United States were inspected under these voluntary programs.

The inspection services offered by the Fisheries Service are largely continuous, although the packed-under-Federal-inspection-service program was started in 1974 to provide less-than-continuous inspection for plants with approved quality-control programs. Under this program, the Fisheries Service adjusts inspection frequency based on the reliability of a plant's quality-control program. Fish plants with outstanding quality-control programs receive less frequent inspection than plants having weak programs.

By regulation (50 C.F.R. 260.97(d) and 260.103(f)), the Fisheries Service is authorized to discontinue inspection at plants not meeting prescribed standards and to hold products for further examination of wholesomeness or adulteration. Also, plants under the Fisheries Service inspection program are still subject to inspection by FDA.

USDA CONSULTANT REPORT

In June 1977 USDA released the results of a consultant report on the Federal meat and poultry inspection program-- "Study of the Federal Meat and Poultry Inspection System" by Booz, Allen, and Hamilton, Inc., June 1977. The purpose of the study was to identify alternative inspection systems that would improve cost effectiveness, eliminate unnecessary interference in commerce, and still insure that meat and poultry for human consumption is unadulterated and not misbranded.

The report concluded that several areas of the meat and poultry inspection operations and management, including inspection at processing plants, offered opportunities to improve cost effectiveness. A monitoring approach to inspection at processing plants in which an inspector uses a firm's quality-control records, accompanied by frequent verification samples, was considered the best alternative to improve cost effectiveness and consumer protection at processing plants.

The report recommended a mandatory system of quality control for processing plants which would place the responsibility for compliance with inspection requirements squarely

on industry's shoulders. The report envisioned a quality-control system which would embrace all areas of product flow, including incoming products, processing of products, and outgoing products.

According to the report the Service, industry, and consumers would all benefit from a system of inspectors monitoring inplant quality control. The Service would have greater staffing flexibility and would be able to cover more plants with the same number of inspectors. Industry and consumers would benefit, according to the study, because quality-control programs would result in a more consistent product entering food channels and less throwaway at the plant.

The report concluded that an inplant quality-control system must be accompanied by new enforcement tools. Economic deterrents were considered the most effective means to insure compliance. The report recommended that the Service devise a plant rating system tied to a progressive enforcement system that includes economic penalties, such as charging for extra inspection time spent in problem plants.

CHAPTER 3

CONCLUSIONS, RECOMMENDATIONS, AND AGENCY COMMENTS

CONCLUSIONS

The Service's inspection resources could be used more efficiently and effectively if inspection frequency at processing plants was tailored to the inspection needs of individual plants. The frequency of inspection at individual plants should be determined by considering such factors as (1) the reliability of a plant's quality-control system, (2) the plant management's attitude toward complying with inspection requirements, and (3) the plant's history of compliance with inspection requirements. Plants where management has accepted its responsibility for producing wholesome, unadulterated, and properly branded products under sanitary plant conditions have a high potential for periodic unannounced inspection.

Periodic unannounced inspections would allow the Service to inspect more plants or inspect plants needing upgrading more frequently. Upgrading certain plants would provide greater assurance that consumers are getting wholesome, unadulterated, and properly branded products.

Under current Service procedures, most processing plants are inspected daily. The Meat and Poultry Acts, however, do not specify how often processing plants must be inspected. Tailoring inspection frequency to the inspection needs of individual plants would be a major change in the Service's practice of daily inspections. Therefore, because of the importance of inspection to consumers and the longstanding congressional interest in the program, such a change should be specifically authorized by the Congress. This would provide an opportunity for the public and the industry to present their views on such a major change.

One requirement in any system of periodic unannounced inspections should be the inplant quality-control system. Many plants have quality-control programs for certain aspects of their operations. Currently, the acts do not authorize the Secretary to require plants to have quality-control systems which could, in the absence of an inspector, insure that products are prepared in compliance with plant standards and Service requirements and that deficiencies are identified and corrected by the plant so that unacceptable products do not reach the consumer. Such authority is needed if the Service is to institute a program of periodic unannounced inspections at processing plants.

Effective quality-control systems help plant managements control operations better and insure that quality products are produced; provide increased assurance to consumers that they are receiving wholesome, unadulterated, and properly branded products; and would permit the Service to reduce inspection frequency.

Additionally, the authority to require plant managements to develop and carry out adequate, reliable quality-control systems should be coupled with authority for the Service to apply strong penalties or sanctions when plant managements fail to carry out their responsibilities under these systems. The penalties must by necessity be economic deterrents, with severity far exceeding possible economic gains. Authority to withdraw inspection or impose civil penalties of up to \$100,000 for failing to take appropriate action when the quality-control system identifies a deficiency or for failing to comply with inspection requirements would, in our opinion, be sufficient economic deterrents.

The change to a system of inplant quality control monitored by inspectors will take time and will need the full cooperation of industry. The Service, with industry's input, will need to develop criteria for determining quality-control systems needed at various types and sizes of processing plants. Some plants will only need to expand existing quality control and keep proper records. Others, which have been relying on Service inspectors for quality control, will have to develop and implement complete quality-control systems. Small plants, with low volume or limited facilities, could have less sophisticated systems than larger plants, with key production personnel rather than independent quality-control staffs being responsible for seeing that prescribed quality-control procedures are followed.

Once a plant has a quality-control system, plant management would have to demonstrate to the Service that the system, in the absence of an inspector, would insure that deficiencies would be identified and procedures corrected so that out-of-compliance products would not reach the consumers.

The USDA consultant's conclusions are similar to our proposals with respect to (1) providing USDA with a more flexible approach for inspecting meat and poultry processing plants, (2) requiring quality control at federally inspected meat and poultry processing plants, and (3) the need for civil penalties to be used as a tool to insure compliance with processing inspection requirements.

RECOMMENDATIONS TO THE CONGRESS

We recommend that the Congress amend the Federal Meat Inspection Act and the Poultry Products Inspection Act to authorize the Secretary of Agriculture to:

- Make periodic unannounced inspections of meat and poultry processing plants, tailoring the inspection frequency to the inspection needs of individual plants based on (1) the reliability of the plant's quality-control system, (2) the plant management's attitude toward complying with inspection requirements, (3) the plant's history of compliance with inspection requirements, and (4) such other factors as the Secretary deems necessary.
- Require meat and poultry processing plants to develop and implement quality-control systems that can be relied on to insure that wholesome, unadulterated, and properly branded products are produced. The necessary criteria for determining the quality-control systems needed at various types and sizes of plants should be developed by the Secretary in cooperation with industry. Such systems should provide for maintaining appropriate records of quality-control tests, test results, and corrective actions. These records should be available to Agriculture's inspection personnel for monitoring the quality-control systems.
- Withdraw inspection or impose civil penalties of up to \$100,000 for processing plants failing to take appropriate action when the quality-control system identifies a deficiency or when plants fail to comply with inspection requirements.

Suggested legislative language appears in appendixes VII and VIII.

RECOMMENDATIONS TO THE SECRETARY OF AGRICULTURE

We also recommend that, if the Congress amends the acts as recommended above, the Secretary of Agriculture:

- Develop criteria for deciding the optimal inspection frequency for individual processing plants based on such factors as (1) the reliability of the plant's quality-control system, (2) the plant management's attitude toward complying with inspection requirements,

and (3) the plant's history of compliance with inspection requirements.

- In cooperation with industry, develop criteria for determining the quality-control systems needed at various types and sizes of plants to insure that their products are wholesome, unadulterated, and properly branded.
- Develop criteria for assessing penalties, within the provisions of the acts, when plants do not comply with inspection requirements.

AGENCY COMMENTS AND OUR EVALUATION

USDA advised us by letter dated October 5, 1977 (see app. IX), that it was unable to take any position on our recommendations because it was soliciting views from all affected parties on similar recommendations contained in the Booz, Allen, and Hamilton, Inc., report on the meat and poultry inspection program. USDA also said that our recommendations would be considered along with other views it receives during the public evaluation process before any steps are taken toward implementation.

USDA said that our recommendations would appear to substitute a quality-control program for the present continuous inspection process. However, under the current inspection system, inspection is not continuous. Most processing plants are inspected daily, but more than half are on patrol assignments, where inspectors are responsible for several plants and may only spend a few hours a day at each plant. In addition, inspectors assigned full time to a plant are not able to continuously monitor all processing operations, because it is not possible for an inspector to be in all departments of a plant at the same time. Because current inspection is not continuous, we believe that reliable quality-control systems, coupled with authority for USDA to apply strong penalties or sanctions, would provide greater assurance, in the absence of an inspector, that deficiencies would be identified and procedures corrected so that out-of-compliance products would not reach consumers.

Although USDA did not endorse our recommendations, it pointed out that mandatory quality control was a provocative concept. According to USDA, a significant barrier to the eventual adoption of any quality-control scheme would be the problems small processors would have in creating and financing a quality-control plan. We recognize that the

change to a system of inplant quality control, monitored by inspectors, will take time and will need the full cooperation of industry. USDA, with industry's input, will need to develop criteria for determining quality-control systems needed at various types and sizes of processing plants. The ability of processors, both large and small, to create and finance a quality-control system will substantially depend on the criteria developed by USDA.

Also, our report points out that many plants have already developed quality-control programs for certain aspects of their operations. In implementing required quality-control systems, some plants would only need to expand existing quality control and keep proper records. Other plants, which have been relying on inspectors for quality control, would need to develop and implement complete quality-control systems. In addition, our report points out that small plants, with low volume or limited facilities, could have less-sophisticated systems than larger plants with key production personnel rather than independent quality-control staffs being responsible for seeing that the prescribed quality-control procedures are followed.

USDA suggested that meaningful intermediate sanctions which could be invoked against inspection offenders are needed. Also, it pointed out that withdrawal of inspection is rarely used except for the most egregious violators and that civil penalties, which are cumbersome to administer, can be viewed by unscrupulous firms as mere costs of doing business.

Under existing legislation, USDA is authorized to suspend inspection, detain products, and seize and condemn products. Also, inspectors can take enforcement actions, such as closing production lines and requiring procedure changes, to correct problems. We believe these are meaningful intermediate sanctions which USDA could invoke for violations by plants operating under a quality-control system because they have an indirect economic deterrent effect by delaying production.

Penalties for violations by plants operating under a quality-control system must by necessity be economic deterrents, with severity far exceeding possible economic gains. In our opinion, withdrawal of inspection and/or civil penalties would be sufficient economic deterrents. Currently, USDA is authorized to withdraw inspection, thereby preventing production and shipping of products, from a plant where

products are found to be adulterated due to unsanitary plant conditions or where plant management fails to destroy condemned products.

Our recommendation would expand this authority to violations by plants failing to take appropriate action when the quality-control system identifies a deficiency. In addition to, or in lieu of, inspection withdrawal or other penalties, USDA could impose civil penalties for these and other violations of inspection requirements. Civil penalties would not only directly penalize but could indirectly penalize a plant because of the competitive nature of the meat and poultry industry. However, these penalties would only be meaningful if they are applied uniformly. Therefore, USDA should develop clear and firm criteria setting forth specific conditions under which inspection should be withdrawn and/or civil penalties imposed.

CHAPTER 4

SCOPE OF REVIEW

Our review of the Federal meat and poultry inspection program was limited to Federal inspection activities at meat and poultry processing plants.

We reviewed legislation, regulations, and instructions and various reports, studies, articles, and financial and operating records pertaining to meat and poultry inspection requirements and the inspection program. We interviewed

- Service headquarters and regional office officials, area and circuit supervisors, and inspectors;
- other USDA officials, including those of the Offices of Audit and Investigation;
- former officials responsible for California's meat and poultry inspection program; and
- management officials and employees at meat and poultry processing plants.

We reviewed Service records of annual reviews of all federally inspected processing plants in California, Michigan, and Ohio for 1975 and 1976. To find out whether the annual reviews generally reflected actual plant conditions, we visited 70 randomly selected plants--41 in California, 15 in Michigan, and 14 in Ohio.

We reviewed Service and plant records and observed inspection activities at 24 processing plants in the three States to determine their potential for periodic unannounced inspection. We selected 18 of the plants from the 70 plants we had previously visited and 6 other plants which Service area supervisors considered to have excellent quality-control programs.

At each of the 24 plants, we collected information on the plant's compliance with Service requirements, quality control, and operating procedures and on the inspectors' activities. Specifically, we collected data on

- plant quality-control procedures, including those that the Service had approved;
- volume of production;
- condemnations;

- plant improvement programs;
- daily sanitation reports;
- number of employees;
- plant or line closings; and
- Service inspector's duties, including time spent at the plant.

We also engaged the services of two experts to assist us in our review. Our expert on Federal meat and poultry inspection requirements analyzed information on Service inspection results and gave us his opinion on whether the Service was using inspection resources efficiently. Our expert on quality control furnished us information on the essentials and benefits of quality control and visited some of the plants.

TYPES OF PROCESSING OPERATIONS

Meat and poultry processing plants conduct different kinds of operations which have varying degrees of health and economic risks to consumers. Overall, the plants we visited had five basic kinds of processing operations:

- Boning, breaking, and cutting
- Curing and smoking
- Formulated meat products
- Processed poultry products
- Canned meat products

BONING, BREAKING, AND CUTTING

This operation is one of the less complex of the processing operations. Animal carcasses--cattle, sheep, pigs--are brought to the boning house from a federally inspected slaughter house and are cut up into smaller portions, such as quarters, roasts, chops, and steaks. Some portions of the meat are deboned for use in other kinds of meat processing. Except for implements to cut the carcasses, and packaging equipment, very little equipment is used. After the meat is cut up, it is placed in boxes for shipment to wholesalers or retailers or to other plants for further processing.

CURING AND SMOKING

This kind of plant produces such products as hams and bacon. It is very complex and usually processes different products at the same time. Before smoking, the meat is pumped with a cure solution (primarily water) so that it will not become too dry. For example, hams can be pumped up by 30 percent of their normal weight. The cure solution is then smoked out of the ham to bring its weight back to normal.

The principal risk associated with cured and smoked meats is economic. When they are pumped with a cure solution which is primarily water, the products may be over-pumped, resulting in more water in the final product than is permitted by Service standards.

FORMULATED MEAT PRODUCTS

This type of processing plant produces such products as sausage and frozen dinners or potpies, which normally

contain meat and nonmeat ingredients. In these plants, incoming ingredients are cleaned, prepared according to a precise formula, and segregated. In producing sausages, required proportions of lean meat, fat, and water are mixed together and placed in casings before being cooked and smoked. Care must be taken to insure that each product is identical.

PROCESSED POULTRY PRODUCTS

Poultry processing operations include those which produce products similar to the formulated meat products and those which receive poultry carcasses from federally inspected slaughter plants, then cut up or debone, box, label, and ship them to restaurants and retail markets.

CANNED MEAT PRODUCTS

This kind of operation produces canned processed products, such as soups, stews, and casseroles. Incoming ingredients are cleaned, prepared, and mixed together in accordance with established formulas. The ingredients are then placed in cans and sealed. The principal risk associated with this kind of operation is the chance of bacterial contamination in the cans after sealing. To guard against bacterial contamination, a sample of each production lot is incubated and monitored for signs of swelling indicating bacterial growth within the can.

TYPES OF SERVICE-APPROVED QUALITY-
CONTROL PROGRAMS AS OF JUNE 1977

<u>Quality-control programs</u>	<u>Number approved</u>
Net weight	644
Nutritional labeling	286
Fat and added water	211
Microbiological monitoring	100
Basting	81
Mechanical deboned meat	75
Percent labeling	38
Fat (note a)	30
Meat ingredient	29
Canned ham (yield)	12
Low sodium	12
Cooked meat equivalent	10
Textured vegetable protein	10
Count and vignette (note b)	9
Type A school lunch	8
Miscellaneous programs (note c)	<u>98</u>
 Total	 <u>1,653</u>

a/ Includes separate programs for fat percent in beef, pork sausage, and cooked sausage.

b/ Includes separate programs for count to insure that the number of product units in the container agrees with that shown on the label and for vignette to insure that the product is of comparable appearance and composition with that shown on the label vignette.

c/ Miscellaneous programs include those for added substance, added water, batter and breading, combination meats, cooking shrinkage, drained weight, fat and protein, marinating, meat ball control procedure, moisture evaluation, moisture in poultry, moisture protein ratio and pH, oil (soybean) in soups, prefried bacon, poultry sausage, rendering--low temperature, seasoning control, skins for popping, smoked meats, tenderizer pickup, total ingredient labeling, turkey ham, wash out percentage, and weight control.

PREVIOUS GAO REPORTS ON
MEAT AND POULTRY INSPECTION

"Enforcement of Sanitary, Facility, and Moisture Requirements at Federally Inspected Poultry Plants," B-163450, September 10, 1969.

"Weak Enforcement of Federal Sanitation Standards at Meat Plants by the Consumer and Marketing Service," B-163450, June 24, 1970.

"Consumer and Marketing Service's Enforcement of Federal Sanitation Standards at Poultry Plants Continues to be Weak," B-163450, November 16, 1971.

"Consumer Protection Would be Increased by Improving the Administration of Intrastate Meat Plant Inspection Programs," B-163450, November 2, 1973.

"Selected Aspects of the Administration of the Meat and Poultry Inspection Program," CED-76-138, August 25, 1976.

SERVICE REVIEW REQUIREMENTS

The Service uses the following requirements for reviewing Federal and State meat and poultry slaughter and processing plants.

Ante-mortem and post-mortem inspection--Ante-mortem and/or post-mortem inspection procedures must be done in a manner that will detect and remove any unwholesome carcass, part, or organ from human food channels. (Slaughter plants only.)

Reinspection (processing)--Inspection and control of processed products must assure that only sound, wholesome products are distributed into human food channels.

Sanitation--Operational sanitation must permit production of wholesome products and must also permit product handling and processing without undue exposure to contaminants. Facilities and equipment must be properly cleaned at regular intervals. All personnel must practice good personal hygiene and management must provide necessary equipment and materials to encourage such hygiene. Particular emphasis should be placed on the product and the product zone. Reviewers should consider the significance of individual instances in arriving at a judgment of the overall sanitation of a plant.

Potable water--When water is used in areas where edible products are slaughtered, eviscerated, dressed, processed, handled, or stored, it must be potable.

Sewage and waste disposal control--Sewage and waste disposal systems must effectively remove sewage and waste materials, prevent undue accumulation or development of odors, and must not serve as harbors for rodents or insects.

Pest control--The plant's pest control program must be capable of preventing or eliminating product contamination.

Condemned and inedible material control--Condemned and inedible products or materials must be controlled to prevent their diversion into human food channels.

SERVICE COMPLIANCE STAFF'S CRITERIA FOR RATING PLANTSSIGNIFICANCE OF FINDINGS

Individual review findings on plant conditions are assigned a significance factor denoting the likelihood that, as a result of the condition, adulterated, misbranded, un-inspected, or improperly inspected products would leave the plant. The factors are as follows:

- Significance 1. Probable: certain, or highly likely from the observations of both cause and effect.
- Significance 2. Possible: likely; cause observed but effect not observed to a degree sufficient to identify the deficiency as probable.
- Significance 3. Potential: latent or conceivable; neither cause nor effect observed but deficiencies found in measures used to prevent occurrences.

PLANT CATEGORIES

A category number is assigned to each plant reviewed to identify the frequency of followup reviews. Categories are as follows:

- 1. At least one finding of significance 1. Compliance staff to make followup review semiannually.
- 2. At least one finding of significance 2. Compliance staff to make followup review annually.
- 3. At least one finding of significance 3. Compliance staff to make followup review within 2 years.
- 4. No findings of significance. Compliance staff to make followup review within 3 years.

QUALITY CONTROL PROGRAM TO ASSIST THE
USDA IN THE INSPECTION OF MEAT AND
POULTRY PROCESSING PLANTS

Prepared for the
General Accounting Office
February, 1977

By

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QUALITY CONTROL PROGRAM TO ASSIST THE USDA IN THE
INSPECTION OF MEAT AND POULTRY PROCESSING PLANTS

Some of the present problems being experienced by the USDA Meat and Poultry Inspection program are due to the turning over of State inspection programs to USDA. These changes have resulted in a shortage of manpower needed to conduct the continuous inspection required for all meat and poultry facilities. USDA must assure that all products produced in federally inspected plants are in compliance with the Federal meat and poultry inspection acts. To maintain required levels of inspection (that is, the supervision by USDA personnel of the preparation of any product produced in an official establishment, 9 C.F.R. 318.4a), increased support will be needed to eliminate the manpower shortage or new inspection programs must be instituted.

One effective means of extending inspectional coverage and increasing consumer protection is to have the processor provide a complete quality control and sanitation program. The records of such a program could be provided to the inspector to substantiate a constant monitoring program on the part of the processor. These results would allow the USDA inspector to conduct only surveillance sampling and tests to insure that the program was being conducted in such a manner that all products are produced in compliance with the Federal meat and poultry inspection acts.

The present USDA meat and poultry plant quality control program provides the basis for such a mechanism whereby industry can assume the responsibility of demonstrating that the products produced meet all the requirements of the Federal meat and poultry inspection acts. FDA has similar systems whereby plants must demonstrate that products produced meet all of FDA's requirements so that inspector presence can be on a periodic basis allowing an inspector to cover several plants.

Many plants presently have in operation various levels of quality control programs. These programs may vary from plants which have complete quality control programs with a quality control manager who is responsible for total product quality and wholesomeness and who reports directly to plant management rather than production management, to plants whose quality control programs only cover certain processing operations. Some of these programs which have been sanctioned by USDA cover such things as net weight, compositional control in cooked sausages, added substances and added water in canned hams, cured and smoked meats, and nutritional labeling. These programs presently exist but could be expanded to the benefit of industry.

The intent of this paper is to show that a quality control and sanitation program, covering all phases of production with proper records and adequate monitoring, could extend the inspectional coverage of USDA and increase consumer protection.

Establishments Which Could Participate

Any plant which further processes meat and/or poultry products should be eligible to participate in a quality control and sanitation program designed to extend inspectional coverage provided (1) the processor has a good inspection record, (2) it has developed an acceptable inplant quality control program, and (3) management has accepted the responsibility of insuring that all products will meet the requirements of the acts. Eligible plants would include the following types of operations but not be exclusive of other types of operations.

1. Boning, breaking, and cutting fresh meats
2. Formulated meat products
3. Curing and smoking
4. Processed poultry products
5. Canned meat products

Before any processor should be permitted to operate under limited supervision, that establishment would first be required to demonstrate to USDA that the inplant quality control program was capable of taking appropriate action when a deficiency occurred to prevent any adulterated, unwholesome, or misbranded product from reaching the market.

Plants smaller in size, having less volume, or with limited facilities, would be eligible to participate in the program. This could be accomplished by incorporating the various requirements of a quality control and sanitation program into the responsibilities of key personnel within the plant operation who would have the authority to stop production or shipment of products not meeting the requirements of the acts.

General Concept of a Quality Control Program

An inplant quality control and sanitation program sufficient to assure that meat food products are prepared and handled in compliance with the Federal meat and poultry

inspection acts would be required to show evidence that compliance had been maintained. A complete monitoring system would have a defined procedure and/or specified sampling and testing method for each raw material, ingredient, product, process, waste material, and package. Specifications and procedures for each product and process would set quality limits and standards. Constant supervision by plant personnel would be necessary to detect deficiencies at critical points and to correct abnormalities. Records would be required to show the type of test or observation, the number of tests, results, acceptability of the product, and the action taken when a deficiency was noted.

Sanitation procedures must be established to cover the environment of the premises, the cleaning and sanitizing of all facilities and equipment, preoperational inspections, operational sanitation, personal hygiene, pest control, waste disposal, and inedible material removal. Appropriate checks and records would be required for each of the above areas with persons in authority responsible. Followup inspections would be required of the quality control personnel with appropriate microbiological sampling and records to validate results.

The USDA inspection program would monitor the quality control program on a patrol basis by review of the records, by comparative sampling and product analysis, and by plant inspections. All records pertinent to the program, including appropriate production data, cost analysis of losses and spillage, and rework records, would be used in evaluating compliance. Comparative samples would be analyzed and plant inspections would be conducted to verify test results and compliance with routine program requirements. Critical areas, such as product losses due to condemnations, would require that special attention be given to records and in-plant product inspections to assure that proper supervision by the processor was being given to inspect all products and to remove defects.

For such a program to be successful, the full support of management would be required. Properly trained personnel would be necessary to conduct the inplant program and they would be given the authority to stop production or shipments to prevent misbranded or otherwise adulterated product from entering the market. Inplant training on a periodic basis for all plant employees would also be necessary to emphasize the importance of personal hygiene and product wholesomeness. The quality control program must be segregated from production and report directly to top level management. This would affirm the integrity of the program.

Penalties for violations by establishments operating under a quality control program must by necessity be economic deterrents, with severity far exceeding possible economic gain.

Requirements of a Quality Control Program

An effective quality control program can prevent plants from producing unwholesome and adulterated products by providing the necessary controls over all critical phases of product handling and processing. Requirements are outlined below for those areas for which controls would be applicable in most operations.

I. Personnel

A. Quality control manager

1. Responsible to plant management, not production management
2. Properly trained to perform the duties required for that plant
3. Has the authority to stop production, hold shipments, and take immediate action to prevent unwholesome products from being produced or shipped

B. Technicians

1. Authority to carry out required duties
2. Training required to perform tests, observations, take samples, etc.
3. Responsible to quality control manager

C. Employees

1. All new employees instructed in food handling practices and personal hygiene
2. Periodic training given to all employees on food handling practices, food quality, personal hygiene, and safety

- ##### D. Responsible persons - all areas of the program have a designated person responsible to perform a spec-

ific task, and the individual has authority to take action as appropriate. This would be required for each area and is not specifically stated for each area in the outline.

II. Sanitation

A. Environment

1. Checklist or inspection sheet of areas and items to inspect
 - a. Grounds - free of debris or other matter which might harbor or attract vermin
 - b. Waste disposal - waste properly contained, area clean, regular removal
 - c. Plant facilities - sewage outlets, walls, ceilings, lighting, floors, doors, windows, duct systems, plumbing, etc.
2. Planned long-range improvements

B. Preoperational sanitation

1. Procedures for cleaning all equipment
2. Procedures for cleaning facilities (floors, walls, ceilings, coolers, etc.)
3. Checklist with points to inspect
4. Followup inspection by quality control personnel
5. Quality control monitoring - checkpoints, microbial samples, frequency, limits, action
6. Equipment and facilities maintenance procedures
7. Storage and handling procedures for cleaning materials

C. Operational sanitation

1. Employee facilities (welfare, locker rooms, etc.)
2. Hand and knife washing and sanitizing facilities - soap, towels, sanitizers
3. Utility washing and sanitizing area - hot water, detergent, sanitizer
4. Storage facilities and containers
5. Accidental spillage, breakdowns, and operational cleanup procedures
6. Removal of refuse
7. Removal and decharacterization of inedibles - records of amounts and controls
8. Plant surveillance during operation

D. Pest control

1. Plans and procedures for prevention and elimination
2. Checklist and inspection points

E. Personnel

1. Preoperation check or screening - hands, hair, jewelry; plant policy must be explicit and firm
2. Surveillance during operation - eating, smoking, coughs, cuts, hair

F. Waste disposal

1. Removal of accumulations
2. Schedule and movement through product areas

G. Quality control monitoring - all above areas

1. Records and followup inspections
2. Sampling for microbial levels

3. Supervision of all sanitation programs

III. Product Inspection and Reinspection

A. Raw products inspection at receiving

1. Temperature
2. Microbial condition - samples
3. Filth - wholesomeness
4. Foreign materials - paper, plastic, wood, metal, etc.
5. Containers - condition, sanitation
6. Returned product - sorting, decharacterization
7. Condemned materials - records, disposition
8. Quality control checks, reinspections, records

B. Other ingredients

1. Filth and foreign material
2. Packaging condition
3. Samples - microbial, quality specifications
4. Storage - housekeeping, rotation, etc.

C. Product inspections during processing and storage

1. Temperature
2. Foreign materials
3. Acceptability - defects, bones, hair, etc.
4. Stock rotation - code dates, records
5. Quality control checks and reinspections
6. Temperatures of facilities - storage coolers,

D. Finished products

1. Temperature
2. Weights and measures
3. Packaging and labels
4. Product acceptability - records
5. Rework - rejected product disposition
6. Quality control checks and samples - scales, quality, samples

IV. Sampling - methods are approved procedures which are statistically sound. Samples are of sufficient size and frequency to represent the lots being sampled for the test being performed.

V. Water and Sewage - procedures are adequate to insure that water supplies are potable and sewage systems are sufficient.

Requirements of Quality Control
Programs for Specific Operations

The quality control procedures given above apply generally to all types of meat processing operations. However, meat processing operations are diversified and the general format of requirements for a quality control and sanitation program is not sufficient to cover all operations. The five following types of processing operations will be used as formats to outline the more specific requirements which will be needed to monitor various types of operations.

Types of processing operations

Boning, breaking, and cutting - fresh meats

Formulated meat products

Curing and smoking

Processed poultry products

Canned meat products

Boning, Breaking, and Cutting (fresh meats) Operations

These operations are generally associated with the fresh meat wholesale trade serving hotels, restaurants, and institutions (HRI). The quality control measures outlined above which apply to operations in general most nearly describe those necessary for controlling a fresh meats operation. It should be noted that in fresh meat processing the key points to control are temperature, plant sanitation, and extraneous materials in and on the product.

Below are outlined those areas which would provide a sound overall quality control program when included with those given for operations in general. Some duplication exists for continuity.

I. Receiving

A. Raw material reinspection

1. Temperature
2. Wholesomeness and physical condition
3. Foreign materials

4. Microbial condition
 - a. Sampling method
 - b. Frequency
 - c. Levels and action
 5. Lotting system - records
- B. Returned product
1. Sorting
 2. Reinspection procedures
 3. Disposition by quality control personnel
 - a. Inedible control procedures
 - b. Rework control procedures
 4. Records
- II. Preoperational Sanitation (same as general operation requirements)
- III. Product Inspection During Processing
- A. Breaking and boning
1. On-line boneless reinspection - removal of defects
 2. Defects - procedures, records, inedible control
 3. Temperature - room, product, records
- B. Cutting - fabrication
1. Reinspection and defects removal - on-line
 2. Product control - processing and handling procedures
- C. Packaging
1. Final inspection

2. Net weights (USDA-approved program)

- IV. Storage and Handling

- A. Chilling and/or freezing and storage procedures

- B. Stock rotation

- C. Temperature

1. Monitoring procedures

2. Refrigeration maintenance schedules

3. Records

- V. Products with Added Ingredients or Specified Composition

- A. Composition analysis (if required)

- B. Microbial samples - frequency, limits, action, records

- C. Lotting system - packaging code

- D. Added ingredients

1. Samples

- a. Sample size

- b. Frequency

- c. Action

- d. Records

- VI. Responsible Individuals - Due to the nature of most fresh meat operations, a large portion of the quality control functions can be integrated into the responsibilities of key personnel within the operation. Thus the quality control manager's major responsibilities should be to insure that all quality control measures are implemented and appropriate records are maintained. The quality control manager should also be responsible for all product controls where quantitative measures of quality, such as compositional analysis for ground products or added ingredients, must be determined.

Formulated Meat Products

In addition to the normal sanitation and facility requirements, formulated products require controls to insure that the composition of the product is as stated and/or regulated. Processing procedures must also be monitored to control the end product quality and composition.

I. Receiving - Raw Materials and Ingredients

- A. Processor specifications should be listed for each raw material which is received and should include requirements which would be acceptable by USDA, i.e., filth, temperature, spoilage, contamination, wholesomeness.
- B. Procedures for receiving (rejecting) questionable raw materials and the action to be taken by quality control personnel.
- C. Samples for quality control
 1. Frequency and size
 2. Microbiology
 3. Composition
 4. Methods of analysis
 5. Records
- D. Lotting system for raw materials and ingredients
- E. Storage procedures

II. Formulation

- A. Blending, mixing, or batching
 1. Batch size
 2. Procedures for compositional control of meat raw materials (blend charts, fat, moisture, protein, added ingredients, types of meat)
 3. Total product content controls - breadings, crust, etc.

B. Added ingredient controls

1. Stated controls on critical ingredients - e.g., nitrite
2. Samples and test on premixed raw product for ingredient and compositional control (if necessary)
3. Procedures for checking metering devices, scales, or other measuring devices which affect product composition

C. Temperature control

D. Foreign material control - metal, glass, wood, etc.

E. Fermentation procedures (where applicable)

1. Microbial samples - Staphylococcus
2. pH (acidity or alkalinity)

F. Rework control procedures - records

G. Operational sanitation procedures

III. Cooking and Handling

A. Processing temperature

1. Procedures for taking product temperature
2. Process temperature control and monitoring
3. Frequency
4. End point and limits (as regulated)
5. Action
6. Records

B. Processing time controls - for trichina control in dry sausages or similar products

C. Cooling procedures

D. Procedures for cooked product handling - before packaging

E. Rework control - records

F. Inedible control and disposal

IV. Finished Product

A. Composition

1. Meat ingredients

- a. Samples by quality control
- b. Frequency, size
- c. Method of analysis
- d. Limits - amounts and types of meat
- e. Action

2. Other ingredients (added substances)

- a. Samples by quality control
- b. Frequency, size, method of analysis
- c. Limits
- d. Action
- e. Records

3. Fat, moisture

- a. Samples by quality control
- b. Frequency, size, method of analysis
- c. Limits
- d. Action
- e. Records

NOTE: Studies should be conducted to determine the process variability, sample size, and analytical and sample variance for each of the 3 above areas to establish operational control limits.

B. Temperature controls

C. Microbial controls

1. Samples

2. Frequency

3. Limits on product and rework

4. Action

D. Procedures for reworking product not in compliance

E. Inedible controls

NOTE: In all cases questionable material should be held for inspector release or disposal.

V. Packaging

A. Net weight - USDA-approved program

B. Final reinspection procedures for product - defects, action, rework control

C. Packaging defects control - leakers, labels, seals, etc.

D. Lotting and product identification system

VI. Storage and Handling

A. Temperature control

1. Freezing and/or cooling procedures

2. Monitoring procedures

3. Records

B. Storage procedures - stacking, palletizing, handling, etc.

C. Action when refrigeration is lost

Curing and Smoking Operations

Two major concerns in curing and smoking operations are the control of critical substances and added water.

I. Receiving

A. Raw product reinspection

1. Temperature - procedures for monitoring throughout receiving containers
2. Wholesomeness and overall condition
3. Foreign or extraneous materials
4. Microbial condition
 - a. Samples by quality control personnel
 - b. Frequency, size
 - c. Limits
 - d. Action and records
5. Processor specifications for acceptance (rejection)

B. Returned product

1. Sorting
2. Reinspection
3. Disposition by quality control personnel
 - a. Inedible control
 - b. Rework control
4. Records

II. Curing

A. Dry curing

1. Temperature - during curing
2. Time - required limits - batch records
3. Ingredients
 - a. Control procedures for critical ingredients (nitrite)

1. Samples by quality control personnel
 2. Frequency and size
 3. Method of analysis
 4. Limits
 5. Action
 6. Records
- E. Added ingredients in finished product
(same as yield)
- IV. Finished Product Processing and Packaging
- A. Final reinspection procedures
 - B. Packaging defects control
 - C. Net weight - USDA-approved program
 - D. Lotting and product identification system
 - E. Microbial samples by quality control
 1. Frequency
 2. Size
 3. Limits and action
 4. Records

Processed Poultry Products

Processed poultry products can be divided into two groups, fresh (uncooked) products and formulated and/or cooked products. A quality control program for fresh poultry products would be very similar to the programs outlined for general processing operations and those for boning, breaking, and cutting operations. The programs are interchangeable because fresh poultry products are processed into retail cuts and marketed fresh or frozen in the same manner as fresh red meat items are in HRI operations.

Formulated and/or cooked poultry products, the second category, follow the same processing procedures and controls as other meat products. These products would be covered by the quality control program format for formulated meat products.

Canned Meat Products

A quality control program designed for canned meat products must recognize that procedures for canning low-acid foods have been previously established (the U.S. Food and Drug Administration Good Manufacturing Practices regulations for low-acid food, CFR, Title 21 Food and Drugs, part 113 and part 108). Specific quality control check points in the canning process will be presented but are not intended to be inclusive of all measures which should be implemented in the canning process. The major areas of concern other than the actual canning process are to insure that a wholesome meat product is used and that it (1) is processed under sanitary conditions, (2) is formulated as labeled or regulated, and (3) contains the stated net weight.

I. Receiving - Raw Materials and Ingredients

- A. Processor specifications should be listed for each raw material which is received and should include requirements which would be acceptable by USDA, i.e., filth, temperature, spoilage, contamination, wholesomeness.
- B. Procedures for receiving (rejecting) questionable raw materials and action to be taken by quality control personnel.
- C. Samples for quality control
 1. Frequency and size
 2. Microbiology
 3. Composition
 4. Methods of analysis
 5. Records
- D. Lotting system for raw materials and ingredients

- E. Storage procedures
- II. Raw Material Processing - Reinspection and Defects Removal
- III. Formulation
 - A. Precooking - yield and cook losses
 - B. Batching and mixing
 - 1. Sampling procedures or blending methods - records
 - 2. Limits and action (minimum meat requirements)
- IV. Cans
 - A. Inspection for defects
 - B. Procedure for foreign material removal
- V. Filling and Sealing
 - A. Headspace and fill - sound cans
 - B. Net weights program
 - C. Can closure - procedures and equipment check
- VI. Sterilization
 - A. Licensed retort operators - trained personnel
 - B. Temperature and time
 - 1. Recording thermometers
 - 2. Time and temperature charts kept by operator
 - a. Mercury thermometers in retorts
 - b. Pressure gauge - standardization procedures
 - 3. Processing requirements for each product
 - C. Records
 - D. Equipment and thermometer checks and records

VII. Cooling

A. Procedures

B. Chill water controls

VIII. Final Can Inspection Procedures

IX. Incubation Procedures - Codes and Records

X. Records Maintenance

XI. Finished Product Samples - Quality Control

A. Physical measurements - net weight, vacuum, headspace, drained weight

B. Quality factors - unit size, color, texture, defects, extraneous material, and compliance with specifications or regulations

The above quality control programs for the five types of processing operations are not intended to be inclusive of all procedures but are designed to provide a format which could be used to give thorough coverage of the possible areas in a plant where adulteration or mishandling may occur. The intent is to show that by having an adequate quality control program the need for constant inspector supervision is reduced. This places on the processor the responsibility of insuring that a wholesome and unadulterated product is produced and provides adequate records whereby thorough monitoring by the USDA inspection program can be achieved.

USDA Monitoring of the Quality Control Program

As previously stated, USDA inspectors could monitor a quality control program by thoroughly reviewing the records maintained for each of the critical areas. These records, outlined in the quality control programs above, presently exist in many plants, but are not available to the inspector for use as control measures on the operation. Only those records which concern the control of a process and the factors which could result in unwholesome or adulterated product being produced need be monitored. Those plants that presently do not maintain good records could improve their operations by more closely controlling the variables which affect the end product.

Monitoring production with a total quality control program would improve product quality, consistency, profitability, and compliance with governmental regulations. These improvements would reduce the amount of product losses, rework, and down time while improving consumer confidence in the product. Reducing the variation in product quality and composition would result in an improved competitive advantage by extending shelf life, reducing rework and returns, and improving raw ingredient cost controls. Consumer protection would be upgraded through the improvements in such a system where management is responsible to see that all areas of production are monitored and that product quality and wholesomeness is assured and documented.

Processors who follow through with a complete quality control program are constantly aware of processing problems and the quality of their product. By being aware of a problem which may possibly result in a breach of compliance with the acts, they can take immediate action to correct the deficiency. The records of a quality control program would show these deficiencies and the corrective action taken thus allowing monitoring by inspection personnel. If action is not taken on an identified problem, then the adulteration becomes willful intent. As in present inspection programs, good judgment and sound reason must apply.

The monitoring of quality control records followed by inspection of plant facilities and operations on a random unannounced basis would assure that conditions and products were as stated in the records. Comparative samples should be taken to verify the quantitative and qualitative analyses results shown in the plant records. The improved inplant monitoring program should provide an increase in management supervision and subsequent quality in processing operations under such a program. These conditions with followup checks by the inspectors should improve the present inspection-supervised sanitation programs and result in overall improvements in the system. These improvements would be a result of the upgrading of those plants which chose to develop an overall quality control program and allow additional inspection time to be devoted to those plants which need assistance thus improving consumer protection.

The frequency of inspection or presence in plants which have operational quality control programs would depend on several factors. Some of these factors are the past record of compliance, the length of operational time of the quality control program, the size of the operation, the type of operation, and management's attitude toward compliance. The demonstrated

ability of a processor to operate satisfactorily under the program would be necessary to reduce inspector presence at the facility. The inverse should also be used whereby, when violations or problems occur, the inspection pressures should increase to insure compliance. Under present conditions, inspection frequency should remain high until the processors who have elected to adopt a quality control program have demonstrated that they can maintain compliance. It must be remembered that the inspection program must act to prevent violations and not act only to isolate and control abuses after the fact. Therefore, only those plants which would be willing to develop a quality control program and demonstrate the desired degree of performance should be eligible to participate. The development of such programs should be encouraged due to their effectiveness.

PLANT REVIEWS

To demonstrate that the above concepts are valid for existing programs, five plants were visited. All areas of quality control were discussed to determine existing quality control programs and what measures the individual plants would have to take (implementing quality control measures, sanitation inspections, records needed, etc.) in order for USDA to inspect the plants on a periodic unannounced basis.

Those areas presently covered by quality control programs in the plant and the areas where additional measures must be implemented are discussed below.

Plant ABackground Information

Type of operations	-- Formulated red meat and poultry products; boning, breaking, and cutting - fresh meats
Products	-- Franks; wieners; sausage; braunschweiger; liver; various loaves, such as chopped ham and olive pimento; boneless cuts, and ground beef
Annual production	-- 72,000,000 lbs.
Average weekly production	-- 1,400,000 lbs.
Number of employees	-- about 200
Number of work shifts	-- 3 shifts
USDA-approved quality assurance programs	-- Net weight, microbiological, fat and moisture, boneless beef reinspection
Other plant quality assurance programs	-- Microbiological testing of incoming raw products for a specific bacteria, rework controls, inedible controls, incoming product specifications, sanitation and cleanup procedures, finished product testing, leakage test for vacuum seal on finished products

Summary

This plant would be classified as a formulated red meat and poultry operation with a boning, breaking, and cutting operation. The plant had a good compliance record and an excellent quality control program. Management attitude was conducive to implementing a total quality control program, and plant and laboratory facilities were available with trained technical personnel employed.

The present quality control program in the plant covered the critical areas and was deficient only in the areas of routine inspections now covered by the inspector and a complete records system. Areas covered included a sanitation and cleanup program, receiving specifications and raw materials testing, product handling procedures, batching and formulation controls with laboratory analysis, processing procedures and control, rework control procedure, inedible controls, final product inspection with laboratory analysis, net weights program, and pest control.

Laboratory facilities were USDA approved for moisture, fat and protein analysis, and microbiological testing. Trained laboratory technicians were employed. Samples of raw materials, blends, and finished product were taken on a routine basis. These results could be made available for monitoring by USDA inspection personnel and management stated they were willing to do so. Microbiological tests were conducted on raw materials for total plate counts and salmonella and on the finished product for shelf life.

The areas which would require additional control measures to be implemented would include a plant and facilities inspection procedure and checklist and a pre-operational inspection procedure and checklist. These areas are presently covered by the inspector as is the operational sanitation during processing which would have to be developed by the plant. Batching and formulation records or control sheets and cooking temperature control records would have to be maintained. In most instances the quality control program was in effect but records were not maintained, e.g., the recording thermometers' temperature charts were not filed.

In the boning, breaking, and cutting operation, a boneless beef reinspection program was in effect. Sanitation procedures for cleanup were used and inedible control procedures were effective.

Plant A realized the importance of maintaining controls to produce a consistent product. It is unlikely that an inspector could physically monitor all phases of the operation in this large plant and management must be relied upon to institute control procedures which will insure compliance with the acts. The present quality control program was effective in controlling product quality and was capable of expanding to allow the development of a total quality control program.

Plant BBackground Information

Type of operation	-- Canned meat products (shelf stable)
Products	-- Chili, stew, and tamales (canned products)
Annual production	-- 40,000,000 lbs.
Average weekly production	-- 450,000 lbs. (shelf stable canning)
Number of employees	-- 28
Number of work shifts	-- 1
USDA-approved quality assurance programs	-- Net weight
Other plant quality assurance programs	-- Preoperational inspection and check list, records of retort operation, incubation of products to insure safety of process, trained retort operators, seam testing for proper seal, lotting system during processing, reinspection of processed cans for defects, cans coded

Summary

Plant B is a canned meat operation processing ground or chopped meat products with added ingredients to produce stews, chili, and tamales. The plant had a good compliance record; however, no established quality control program was in force. Processing procedures and equipment were approved with recording thermometers, mercury thermometers, pressure gauges, and time records in use. Preoperational inspections were conducted by plant personnel and a checklist was maintained as a record. The USDA-approved net weights program was used to control fill and all products were sampled and incubated to test for proper processing. Most other quality control procedures which were used were routine and no defined procedures were available. Final product quality was evaluated at a later date by the parent company.

The areas which would require quality control measures to develop a total quality control program are not as extensive as might be expected. A facilities inspection and checklist and an operational sanitation procedure would have to be developed. Raw materials are purchased based on composition; however, no inplant checks are made. Re-inspection of meat products upon receipt and before grinding would require procedures to be developed. Batching, mixing, and formulating charts and records would be needed to insure proper formulation and be available for monitoring. Present canning procedures and records are maintained and products are tested for safety. Additional measures are needed to insure that the end product is tested as to its composition prior to leaving the plant for distribution.

As the major portion of this process is a closed system, the maintenance of adequate records on the present processing methods would allow inspectors to more adequately monitor the product. The establishment of a formal quality control program is expected by management in the near future. With present controls and a formal quality control program, Plant B should easily qualify for reduced inspection. Similar canning operations for low-acid foods are presently under periodic inspection programs by FDA.

Plant CBackground Information

Type of operation	-- Formulated meat products
Products	-- Sausages, franks, bologna, and luncheon meats
Annual production	-- 8,000,000 lbs.
Average weekly production	-- 156,000 lbs.
Number of employees	-- 42
Number of work shifts	-- 1 shift
USDA-approved quality assurance programs	-- Net weight, microbiological
Other plant quality assurance programs	-- Compositional analysis on finished products, personnel training program, shelf life studies, pest control system

Summary

Plant C, a formulated meat products operation, had a good inspection record and an approved microbiological quality control program. Management's attitude was progressive and plans were in progress to expand the present laboratory facilities to a complete quality control laboratory.

The present program covers the areas of sanitation, cleanup, employee training, and shelf life studies on the final products. Microbiological tests were conducted to determine total plate counts and staphylococcus counts on the final product. Some compositional analyses were being made on the final product.

The use of the laboratory facilities for testing raw material composition to assist in product formulation and routine sampling of the final product would be necessary before a complete quality control program could be developed. Other areas which would require quality control measures to be developed include raw product reinspection, facilities and equipment inspection procedures and checklist, pre-operational and operational sanitation procedures and checklist, formulation batch control charts, processing procedures and records, and final product reinspection. Rework and inedible control procedures would also be necessary. The quality control program in this plant was in only the beginning stages; however, management had recognized the need for and importance of such a program. Sufficient product volume was being produced to warrant the development of a total quality control program. Encouragement of such operations as Plant C to develop quality control programs should increase the efficiency of the present inspection program.

Plant DBackground Information

Type of operation	-- Formulated meat and poultry products/ frozen
Products	-- Beef and chicken turnovers, tamale pies, sloppy joes
Annual production	-- 582,000 lbs.
Average weekly production	-- 13,000 lbs. frozen pies
Number of employees	-- 5 (in meat processing)
Number of work shifts	-- 1 per week for meat products
USDA-approved quality assurance programs	-- Net weight
Other plant quality assurance programs	-- Microbiological testing, fatty acid testing (complete quality control program)

Summary

Plant D is a fried pie (turnover) processing plant which produces several meat pies as part of its product line. Its parent company has instituted a complete quality control program within the plant, and all phases of receiving, processing, packaging, storage, and sanitation have defined quality control procedures.

The quality control program covers all phases of the operation. Incoming raw materials are ordered on specifications and are laboratory tested prior to acceptance. Storage of materials is in bulk or as specified (temperature, etc.). Product formulation is from batch charts with production codes which follow the product through to distribution. Processing procedures are given and temperature and other variables are recorded on production sheets. Processing, freezing, and packaging are accomplished on a continuous process. Each batch is sampled and analyzed for ingredient composition (percent crust, etc.). Processing yields on cooked meat are taken and composition is determined before makeup. Control is maintained over the composition of dough, meat ingredients, and cooking oil. Yield data are also kept on weight loss during freezing. The USDA-approved net weight program is in effect. Facilities and equipment checklists are kept as a record after routine inspections by plant personnel. Preoperational sanitation checks are made by key plant personnel as the operation downtime is critical. The USDA requirement for preoperational checks and inspection presence limits when the meat pies can be produced.

Personal hygiene policies and a personnel training program are in force. Management stated they would welcome the use of their records for monitoring the production and processing of their product as the present requirement of inspector presence limits production and reduces efficiency. FDA presently controls all other products produced in this plant on a periodic inspection basis.

Other production controls include recording thermometers on cookers, freezers, and storage freezers with alarm systems for loss of refrigeration. These charts are maintained for record. Bacterial guidelines are used for the product, and shelf life studies are conducted routinely. A sanitation foreman and six full-time trained sanitation personnel are responsible for plant sanitation.

Plant D presently has a complete quality control program and could demonstrate that a periodic inspection program would be feasible as is conducted by FDA in Plant D.

Plant EBackground Information

Type of operation	-- Red meat boning, breaking and cutting - fresh meat wholesale - packaged meats
Products	-- Steaks, roasts, ground beef, etc.
Annual production	-- 1,641,000 lbs.
Average weekly production	-- 32,000 lbs.
Number of employees	-- 10
Number of work shifts	-- 1 shift
USDA-approved quality assurance programs	-- None
Other plant quality assurance programs	-- Ground beef formulation

Summary

Plant E is a wholesale supplier for hotels, restaurants, and institutions with some trade with retail markets. Management attitude is good; however, the small volume of processing limits the feasibility of establishing a quality control program which would require any additional personnel.

No formal quality control program exists although a rapid fat test is used to control the fat content of the ground beef. Additional training is needed for the employees as employee turnover is high. Product returns are held for inspector release when he visits the plant to inspect sanitation and processing.

Such operations as Plant E do not have the volume nor the stability of personnel to warrant a complete quality control program. However, quality control procedures can be established to assist in sanitation, employee training, and facility maintenance which would assist in upgrading the plant. Due to the small volume and limited operations, plants of this nature do not require continuous inspection but could be assisted by inspectors who have been released from continuous inspection at other plants.

GAO'S SUGGESTED LEGISLATIVE CHANGES TO THE
FEDERAL MEAT INSPECTION ACT, AS AMENDED

AUTHORIZE PERIODIC UNANNOUNCED INSPECTIONS
AND REQUIRE INPLANT QUALITY-CONTROL SYSTEMS

Discussion

The Federal Meat Inspection Act, as amended (21 U.S.C. 601 et seq.), requires inspection of all meat food products prepared for commerce. The act does not prescribe either the specific method of inspection nor how often meat processing plants should be inspected. The Service generally inspects meat processing plants at least once a day, even though many plants have the potential for periodic unannounced inspection. If authorized to inspect meat processing plants on a periodic unannounced basis, the Service could tailor the frequency of its inspections to the inspection needs of individual plants.

One requirement in any system of periodic unannounced inspections should be the inplant quality-control system. Although many meat processing plants have implemented quality-control programs for certain aspects of their operations, the Meat Act does not authorize the Secretary of Agriculture to require plants to have quality-control systems capable of insuring that, in the absence of an inspector, products are prepared in compliance with plant standards and Agriculture requirements and that deficiencies are identified and corrected by the plant so that unacceptable products do not reach the consumer.

The following changes would authorize the Secretary of Agriculture to tailor inspections to the inspection needs of individual plants and require meat processing plants to develop and implement quality-control systems that can be relied on to insure that wholesome, unadulterated, and properly branded products are produced. Such systems should provide for maintaining appropriate records of quality-control tests, test results, and corrective actions. These records should be available to Agriculture's inspection personnel for monitoring the quality-control systems. The changes would also require the Secretary to approve quality-control systems for individual plants once plant management has demonstrated that the system can be relied on in the absence of an inspector.

Changes

Delete section 6 which reads:

"That for the purposes hereinbefore set forth the Secretary shall cause to be made, by inspectors appointed for that purpose, an examination and inspection of all meat food products prepared for commerce in any slaughtering, meat-canning, salting, packing, rendering, or similar establishment, and for the purposes of any examination and inspection said inspectors shall have access at all times, by day or night, whether the establishment be operated or not, to every part of said establishment; and said inspectors shall mark, stamp, tag, or label as 'Inspected and passed' all such products found to be not adulterated; and said inspectors shall label, mark, stamp, or tag as 'Inspected and condemned' all such products found adulterated, and all such condemned meat food products shall be destroyed for food purposes, as hereinbefore provided, and the Secretary may remove inspectors from any establishment which fails to so destroy such condemned meat food products: Provided, That subject to the rules and regulations of the Secretary the provisions hereof in regard to preservatives shall not apply to meat food products for export to any foreign country and which are prepared or packed according to the specifications or directions of the foreign purchaser, when no substance is used in the preparation or packing thereof in conflict with the laws of the foreign country to which said article is to be exported; but if said article shall be in fact sold or offered for sale for domestic use or consumption then this proviso shall not exempt said article from the operation of all the other provisions of this Act."

Insert new sections 6(a) and 6(b)

"(a) That for the purposes hereinbefore set forth, the Secretary shall cause to be made, by inspectors appointed for that purpose, an examination and inspection of meat food products prepared for commerce in any slaughtering, meat-canning, salting, packing, rendering, or similar establishment. The frequency of such examination and inspection shall be determined by the Secretary after consider-

ation of the inspection needs of individual plants based on (1) the reliability of the plant's quality-control system, (2) plant management's attitude toward complying with inspection requirements, (3) the plant's history of compliance with inspection requirements, and (4) such other factors as the Secretary deems necessary. Inspectors shall have access at all times, by day or night, whether the establishment be operated or not, to every part of said establishment.

"(b) For the purpose of any examination and inspection, the Secretary shall require said establishments to develop and implement inplant quality-control systems, under the rules and regulations prescribed by the Secretary, that insure that unwholesome, adulterated, or misbranded products are not produced. Each establishment shall demonstrate to the Secretary the adequacy and reliability of the inplant quality-control system to take appropriate action when deficiencies are identified. Under rules and regulations prescribed by the Secretary, the Secretary shall approve inplant quality-control systems and said inspector shall, as necessary, monitor such systems to determine that meat food products prepared for commerce are not unwholesome, adulterated, or misbranded."

Delete the portion of section 7(a) which reads:

"and marked 'Inspected and passed'."

Redesignate section 8 as section 8(a), delete the section which reads "or meat food products to be labeled, marked, stamped, or tagged as 'inspected and passed'." and add:

"to be labeled, marked, stamped, or tagged as 'inspected and passed' as required by section 4 of this Act or said meat food products to enter commerce."

Insert a new section 8(b) which reads:

"(b) The inplant quality-control systems for establishments preparing meat food products for commerce, as required in section 6(b) of this Act

shall include control programs that insure that such products are produced under the rules and regulations of sanitation prescribed by the Secretary."

Delete the portion of section 21 which reads "or meat food products therefrom,".

Redesignate section 202(b) as section 202(c) and insert new section 202(b):

"(b) Persons, firms, and corporations that engage in the business of preparing meat food products for commerce in any slaughtering, meat-canning, salting, packing, rendering, or similar establishment shall keep such records, as required by the Secretary, concerning inplant quality-control systems and tests, test results, and corrective action taken when inplant quality-control systems identify deficiencies. All such records shall be made available to the duly authorized representatives of the Secretary."

APPLYING STRONG PENALTIES OR SANCTIONS

Discussion

The authority to require plants to have adequate, reliable quality-control systems should be coupled with authority for Agriculture to apply strong penalties or sanctions when managements fail to carry out their responsibilities under such systems. The penalties must by necessity be economic deterrents, with severity far exceeding possible economic gains. Authority to withdraw inspection or impose civil penalties up to \$100,000 for failing to take appropriate action when the quality-control system identifies a deficiency or for failing to comply with inspection requirements would, in our opinion, be sufficient economic deterrents.

The following changes would authorize the Secretary of Agriculture to withdraw inspection from or impose a civil penalty on a plant which fails to take appropriate action when the quality-control system identifies a deficiency or which fails to comply with inspection requirements.

Changes

Insert a new section 6(c):

"(c) All meat food products found to be adulterated shall be condemned and shall, if no appeal be taken from such determination of condemnation, be destroyed for human food purposes under the supervision of an inspector: Provided, That meat food products, which may by reprocessing be made not adulterated, need not be so condemned and destroyed if so reprocessed under the supervision of an inspector and thereafter found to be not adulterated. If an appeal be taken from such determination, the meat food products shall be appropriately marked and segregated pending completion of an appeal inspection, which appeal shall be at the cost of the appellant if the Secretary determines that the appeal is frivolous. If the determination of condemnation is sustained, the meat food products shall be destroyed for human food purposes under the supervision of an inspector."

Insert a new section 6(d):

"(d) The Secretary may withdraw inspection services from any establishment which fails to so destroy such condemned meat food products or which fails to take appropriate actions when the inplant quality-control system identifies a deficiency: Provided, That subject to the rules and regulations of the Secretary, the provisions of this Act in regard to preservatives shall not apply to meat food products for export to any foreign country and which are prepared or packed according to the specifications or directions of the foreign purchaser, when no substance is used in the preparation or packing thereof in conflict with the laws of the foreign country to which said article is to be exported; but if said article shall be in fact sold or offered for sale for domestic use or consumption then this proviso shall not exempt said article from the operation of all the other provisions of this Act."

Insert a new section 8(c):

"(c) The Secretary may withdraw inspection services from any establishment which fails to take appropriate actions when the inplant quality-control system identifies a sanitation deficiency."

Delete the second sentence in the first paragraph of section 401 which reads:

"This section shall not affect in any way other provisions of this Act for withdrawal of inspection services under title I from establishments failing to maintain sanitary conditions or to destroy condemned carcasses, parts, meat or meat food products."

Insert in lieu of the deleted sentence:

"This section shall not affect in any way other provisions of this Act for withdrawal of inspection services under title I from establishments failing to maintain sanitary conditions; to destroy condemned carcasses, parts, meat, or meat food products; or to take appropriate action when inplant quality-control systems identify a deficiency."

Redesignate section 406(b) as section 406(c) and insert a new section 406(b):

"(b) In addition to, or in lieu of, other penalties provided under this Act, the Secretary may assess against any person, firm, or corporation preparing meat food products for commerce, after opportunity for a hearing, a civil penalty not to exceed \$100,000 for each violation where establishments fail (1) to maintain sanitary conditions and meat food products are rendered adulterated, (2) to destroy condemned carcasses, parts, meat, or meat food products, (3) to take appropriate actions when inplant quality-control systems identify a deficiency, or (4) to otherwise comply with inspection requirements.

"Moneys received in payment of such civil penalties shall be deposited in the general fund of the United States Treasury. Upon failure to pay the penalties assessed under this section, the Secretary may request the Attorney General of

the United States to institute a civil action to collect the penalties in the appropriate court identified in section 404 of this Act for the jurisdiction in which the person, firm, or corporation is found or resides or transacts business, and such court shall have jurisdiction to hear and decide any such action."

GAO'S SUGGESTED LEGISLATIVE CHANGES TO THE
POULTRY PRODUCTS INSPECTION ACT, AS AMENDED

AUTHORIZE PERIODIC UNANNOUNCED INSPECTIONS
AND REQUIRE INPLANT QUALITY-CONTROL SYSTEMS

Discussion

The Poultry Products Inspection Act, as amended (21 U.S.C. 451 *et seq.*), authorizes, but does not require, the inspection of all processed poultry products. The act does not prescribe either the specific method of inspection nor how often poultry processing plants should be inspected. The Service generally inspects poultry processing plants at least once a day, even though many plants have the potential for periodic unannounced inspection. If authorized to inspect poultry processing plants on a periodic unannounced basis, the Service could tailor the frequency of its inspections to the inspection needs of individual plants.

One requirement in any system of periodic unannounced inspections should be the inplant quality-control system. Although many poultry processing plants have implemented quality-control programs for certain aspects of their operations, the Poultry Act does not authorize the Secretary of Agriculture to require plants to have quality-control systems capable of insuring that, in the absence of an inspector, products are prepared in compliance with plant standards and Agriculture requirements and that deficiencies are identified and corrected by the plant so that unacceptable products do not reach the consumer.

The following changes would authorize the Secretary to tailor inspections to the inspection needs of individual plants and require poultry processing plants to develop and implement quality-control systems that can be relied on to insure that wholesome, unadulterated, and properly branded products are produced. Such systems should provide for maintaining appropriate records of quality-control tests, test results, and corrective actions. These records should be available to Agriculture's inspection personnel for monitoring the quality-control systems. The changes would also require the Secretary to approve quality-control systems for individual plants once plant management has demonstrated that the system can be relied on in the absence of an inspector.

Changes

Redesignate section 6(c) as section 6(d) and insert new sections 6(c)(1) and 6(c)(2):

"(c)(1) That for the purposes hereinbefore set forth the Secretary shall cause to be made by inspectors appointed for that purpose, an examination and inspection of processed poultry products prepared for commerce in any official establishment processing such poultry products. The frequency of such examination and inspection shall be determined by the Secretary after consideration of the inspection needs of individual plants based on (1) the reliability of the plant's quality-control system, (2) plant management's attitude toward complying with inspection requirements, (3) the plant's history of compliance with inspection requirements, and (4) such other factors as the Secretary deems necessary. Inspectors shall have access at all times, by day or night, whether the establishment be operated or not, to every part of said establishment.

"(c)(2) For the purpose of any examination and inspection, the Secretary shall require said establishments to develop and implement inplant quality-control systems, under the rules and regulations prescribed by the Secretary, that insure that unwholesome, adulterated, or misbranded products are not produced. Each establishment shall demonstrate to the Secretary the adequacy and reliability of the inplant quality-control system to take appropriate action when deficiencies are identified. Under rules and regulations prescribed by the Secretary, the Secretary shall approve inplant quality-control systems and said inspectors shall, as necessary, monitor such systems to determine that processed poultry products prepared for commerce are not unwholesome, adulterated, or misbranded."

Redesignate section 7(b) as 7(c) and insert new section 7(b):

"(b) The inplant quality-control systems for establishments processing poultry products for commerce, as required in section 6(c)(2) of this

Act shall include control programs that insure that such products are produced under the rules and regulations of sanitation prescribed by the Secretary."

Delete the semi-colon at the end of section 11(b)(1) and insert in lieu thereof:

" : Provided, That any person that engages in the business of preparing processed poultry products for commerce in official establishments shall keep such records, as required by the Secretary, concerning inplant quality-control systems and tests, test results, and any corrective action taken when inplant quality-control systems identify deficiencies. All such records shall be made available to the duly authorized representatives of the Secretary."

APPLYING STRONG PENALTIES OR SANCTIONS

Discussion

The authority to require plants to have adequate, reliable quality-control systems should be coupled with authority for Agriculture to apply strong penalties or sanctions when managements fail to carry out their responsibilities under such systems. The penalties must by necessity be economic deterrents, with severity far exceeding possible economic gains. Authority to withdraw inspection or impose civil penalties up to \$100,000 for failing to take appropriate action when the quality-control system identifies a deficiency or for failing to comply with inspection requirements would, in our opinion, be sufficient economic deterrents.

The following changes would authorize the Secretary of Agriculture to withdraw inspection from or impose a civil penalty on a plant which fails to take appropriate action when the quality-control system identifies a deficiency or which fails to comply with inspection requirements.

Changes

Insert a new section 6(e):

"(e) The Secretary may withdraw inspection services, as provided for in subsection (c)(1) of this section, from any establishment which

fails to so destroy condemned processed poultry food products or which fails to take appropriate actions when the inplant quality-control system identifies a deficiency."

Delete the portion of redesignated section 7(c) which reads "this section." and insert in lieu thereof:

"subsection (a) of this section and the Secretary may withdraw inspection service from any establishment which fails to take appropriate actions when the inplant quality-control system identifies a sanitation deficiency as provided for in subsection 7(b) of this section."

Insert new section 12(d):

"(d) In addition to, or in lieu of, other penalties provided for under this Act, the Secretary may assess against any person preparing processed poultry products for commerce, after opportunity for a hearing, a civil penalty not to exceed \$100,000 for each violation where official establishments fail (1) to maintain sanitary conditions and processed poultry products are rendered adulterated, (2) to destroy condemned carcasses, parts, poultry, or poultry products, (3) to take appropriate actions when inplant quality-control systems identify a deficiency, or (4) to otherwise comply with inspection requirements.

"Moneys received in payment of such civil penalties shall be deposited in the general fund of the United States Treasury. Upon failure to pay the penalties assessed under this subsection, the Secretary may request the Attorney General of the United States to institute a civil action to collect the penalties in the appropriate court identified in section 21 of this Act for the jurisdiction in which the person is found or resides or transacts business, and such court shall have jurisdiction to hear and decide any such action."

Delete the portion of section 18(b) which reads:

"Upon the withdrawal of inspection service from any official establishment for failure to destroy condemned poultry products as required under section 6 of this Act, or other failure of an official

establishment to comply with the requirements as to premises, facilities, or equipment, or the operation thereof, as provided in section 7 of this Act, or the refusal of inspection service to any applicant therefor because of failure to comply with any requirements under section 7,".

Insert in lieu thereof:

"Upon the withdrawal of inspection services from any official establishment for failure to destroy condemned poultry products or for failure to take appropriate actions when the inplant quality-control system identifies a deficiency as required by section 6 of this Act, or for failure to maintain sanitary practices as required by section 7 of this Act, or the refusal of inspection services to any applicant therefor because of failure to comply with the requirements under section 7,".

UNITED STATES DEPARTMENT OF AGRICULTURE
FOOD SAFETY AND QUALITY SERVICE
WASHINGTON, D.C. 20250

Mr. Henry Eschwege, Director
Community and Economic Development Division
General Accounting Office
Washington, D.C.

OCT 5 1977

Dear Mr. Eschwege:

On September 7, 1977, I received on behalf of the Department of Agriculture a draft GAO report entitled, "A Better Way for the Department of Agriculture to Inspect Meat and Poultry Processing Plants." You invited our comments on the recommendations contained in the draft report.

The GAO report notes that the Department had released in June of this year a report done by an independent consulting firm, Booz, Allen and Hamilton, Inc. The purpose of the latter study was to identify alternative inspection systems that would improve cost effectiveness, eliminate unnecessary interference in commerce, and still insure that meat and poultry for human consumption are unadulterated and not mishandled. The Booz, Allen evaluation was broader in scope than the one undertaken by your Office. The Booz, Allen report examined the whole meat and poultry inspection scheme while your report was confined to the inspection of processing plants.

The Department is actively soliciting the views of all affected parties on the recommendations contained in the Booz, Allen report. Three public briefings were held during the summer and a 2-day public hearing took place last week. An October 31 deadline has been set for the filing of written comments. The Department has also retained two consumer consultants to evaluate the suggestions made by the consulting firm. The consumer groups' critiques are also due by October 31.

When all the comments from external groups have been received the Department will consider all these views in its deliberations on possible changes in the Meat and Poultry Inspection Program. For this reason, I am sure you will understand why the Department is unable to take any position on those recommendations made by GAO which relate to suggestions made by Booz, Allen. However, the GAO comments will be combined with all the views the Department has received during the public evaluation process before any steps are taken toward implementation.

The GAO's recommendations on changes in the inspection of meat and poultry processing plants appear on page 50 of your draft report. It appears that all these recommendations have to do with the substitution of a quality control program for the present continuous inspection process.

Although we are unable to endorse the mandatory quality control notion at this time, it is indeed a provocative concept. It would be most

helpful to us if you could give special attention to the problems small meat and poultry processors would have in creating and financing a quality control plan. A significant barrier to the eventual adoption of any quality control scheme is the possible prohibitively high cost of implementation by small processors. The Department welcomes any assistance GAO could provide in describing the costs of compliance by small businessmen with a quality control program. Similarly, we would like to see legislative proposals which could be used to lighten the financial hardship that quality control would cause for smaller processors.

The Service would also like your assistance in drafting some meaningful intermediate sanctions which could be invoked against inspection offenders. Withdrawal of inspection is rarely used except for the most egregious violators and civil penalties, which are cumbersome to administer, can be viewed by unscrupulous firms as mere costs of doing business.

We hope the small business problem as well as the sanctions matter can be addressed in your final report.

[See GAO note]

The Department welcomes your interest in the meat and poultry processing inspection activities of the Food Safety and Quality Service. When your final report is filed with the appropriate committees of the House and the Senate, the Department will, pursuant to its responsibilities under the Legislative Reorganization Act of 1970, formally respond to your recommendations.

Sincerely,


Robert Angelotti, Ph.D.
Administrator

GAO note: Additional comments of an editorial nature were considered in finalizing the report but are not reproduced here.

PRINCIPAL OFFICIALS OF THE DEPARTMENT OF AGRICULTURE
CURRENTLY RESPONSIBLE FOR ADMINISTERING ACTIVITIES
DISCUSSED IN THIS REPORT

	<u>Tenure of office</u>	
	<u>From</u>	<u>To</u>
SECRETARY OF AGRICULTURE: Bob Bergland	Jan. 1977	Present
ASSISTANT SECRETARY FOR FOOD AND CONSUMER SERVICES: Carol Tucker Foreman	Mar. 1977	Present
ADMINISTRATOR, FOOD SAFETY AND QUALITY SERVICE: Dr. Robert Angelotti	July 1977	Present