



United States Department of Agriculture

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Dear Dr. Lee,

The FSIS onsite audit conducted from September 4 through September 22, 2017, supports that The Republic of Korea's processed poultry inspection system continues to remain equivalent to that of the United States. Enclosed is a copy of the final audit report. The comments received from the Government of The Republic of Korea are included as an attachment to the report.

If you have any questions, please feel free to contact Shannon McMurtrey by email at Shannon.mcmurtrey@fsis.usda.gov or by telephone at (202) 720-9966.

Sincerely,

Mary H. Stanley
Acting International Coordination Executive
Office of International Coordination

Enclosure

FINAL REPORT OF AN AUDIT CONDUCTED IN THE

REPUBLIC OF KOREA

SEPTEMBER 4 - 22, 2017

EVALUATING THE FOOD SAFETY SYSTEMS GOVERNING

PROCESSED POULTRY PRODUCTS

EXPORTED TO THE UNITED STATES OF AMERICA

February 23, 2018

Food Safety and Inspection Service
United States Department of Agriculture

Executive Summary

This report describes the outcome of an onsite equivalence verification audit conducted by the Food Safety and Inspection Service (FSIS) from September 4 - 22, 2017. The purpose of the audit was to determine whether the Republic of Korea's food safety system governing poultry remains equivalent to that of the United States, with the ability to export products that are safe, wholesome, unadulterated, and correctly labeled and packaged. The Republic of Korea is currently eligible to export only ready-to-eat fully cooked, not shelf stable poultry products and thermally processed commercially sterile poultry products to the United States.

The onsite audit focused on six system equivalence components: (1) Government Oversight (e.g., Organization and Administration); (2) Government Statutory Authority and Food Safety and Other Consumer Protection Regulations (e.g., Inspection System Operation, Product Standards and Labeling, and Humane Handling); (3) Government Sanitation; (4) Government Hazard Analysis and Critical Control Points (HACCP) System; (5) Government Chemical Residue Testing Programs; and (6) Government Microbiological Testing Programs.

An analysis of the findings within each component did not identify any deficiencies that represented an immediate threat to public health. The FSIS auditors identified the following systemic findings:

Government Statutory Authority and Food Safety and Other Consumer Protection Regulations

- The Central Competent Authority (CCA) did not have regulatory requirements for maximum line speed allowed in poultry slaughter establishments.

Government HACCP System

- The FSIS auditors identified inadequate government verification of HACCP requirements in seven of the eight audited establishments.

Government Chemical Residue Testing Programs

- The FSIS auditors identified inadequate government verification over implementation of the laboratory quality assurance system in the chemical residue section of the Jeju Veterinary Laboratory.

Government Microbiological Testing Programs

- The FSIS auditors identified inadequate government verification over implementation of the laboratory quality assurance system in the microbiological section of the Jeju Veterinary Laboratory.

During the audit exit meeting, the CCA committed to begin addressing the preliminary findings as presented. FSIS will evaluate the adequacy of the CCA's documentation of proposed corrective actions for the reported findings.

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I. INTRODUCTION

The Food Safety and Inspection Service (FSIS) of the United States Department of Agriculture (USDA) conducted an onsite audit of the Republic of Korea's food safety system from September 4-22, 2017. The audit began with an entrance meeting held on September 4, 2017, in Seoul, Republic of Korea. The participants included representatives from the two agencies that serve as the Central Competent Authority (CCA) – The Ministry of Food and Drug Safety (MFDS) and the Animal and Plant Quarantine Agency (APQA), under the Ministry of Agriculture, Food, and Rural Affairs (MAFRA); USDA's Foreign Agriculture Service (FAS); and two FSIS auditors.

II. AUDIT OBJECTIVE, SCOPE, AND METHODOLOGY

This was a routine ongoing equivalence verification audit. The audit objective was to ensure the food safety system governing poultry remains equivalent to that of the United States, with the ability to export products that are safe, wholesome, unadulterated, and correctly labeled and packaged. The scope of this audit included all aspects of the Republic of Korea's poultry inspection system for producing and exporting ready-to-eat (RTE) fully cooked, not shelf stable poultry products and thermally processed commercially sterile poultry products to the United States.

FSIS applied a risk-based procedure that included an analysis of country performance within six equivalence components, product types and volumes, frequency of prior audit-related site visits, point-of-entry (POE) testing results, specific oversight activities of government offices, and testing capacities of laboratories. The review process included an analysis of data collected by FSIS over a three-year period, in addition to information obtained directly from the CCA through a self-reporting tool (SRT). In addition, the FSIS auditors conducted an onsite verification of the CCA's corrective actions in response to the audit findings reported during the previous FSIS audit from August 25 - September 11, 2015. The FSIS auditors verified that the CCA has effectively implemented its proposed corrective actions.

Representatives from the CCA accompanied the FSIS auditors throughout the entire audit. Determinations concerning program effectiveness focused on performance within the following six components upon which system equivalence is based: (1) Government Oversight (e.g., Organization and Administration); (2) Government Statutory Authority and Food Safety and Other Consumer Protection Regulations (e.g., Inspection System Operation, Product Standards and Labeling, and Humane Handling); (3) Government Sanitation; (4) Government Hazard Analysis and Critical Control Points (HACCP) System; (5) Government Chemical Residue Testing Programs; and (6) Government Microbiological Testing Programs.

The FSIS auditors reviewed administrative functions at CCA headquarters, two regional offices, eight local inspection offices, and the Jeju Veterinary Laboratory for chemical residue and microbiological testing. The FSIS auditors evaluated the implementation of control systems in place that ensures the national system of poultry inspection, verification, and enforcement is being implemented as intended.

FSIS audited all eight establishments certified for export to the United States. During the establishment visits, the FSIS auditors paid particular attention to the extent to which the poultry industry and government officials exercised oversight to control hazards and prevent noncompliances that may threaten food safety. The FSIS auditors examined the CCA’s ability to provide oversight through supervisory reviews conducted in accordance with FSIS equivalence requirements for foreign inspection systems. The requirements for poultry are outlined in Title 9 of the United States Code of Federal Regulations (9 CFR § 381.196).

The FSIS auditors also visited the Jeju Veterinary Laboratory Service, a government laboratory conducting microbiological and chemical residue analyses, to verify whether it has the ability to provide adequate technical support to the inspection system and assess the CCA’s oversight of laboratory functions.

Competent Authority Visits		#	Locations
Competent Authority	National	1	<ul style="list-style-type: none"> • MFDS and APQA headquarters, Seoul
	Regional Offices	2	<ul style="list-style-type: none"> • Honam Regional Office, Honam • Busan Regional Office, Busan
Laboratory		1	<ul style="list-style-type: none"> • Jeju Veterinary Laboratory Service, Jeju
Poultry slaughter establishments		3	<ul style="list-style-type: none"> • Est. K01413007, Jeonbuk-do • Est. K01404001, Jeollabuk-do • Est. SB1406001, Chungbuk-do
Poultry processing establishments		5	<ul style="list-style-type: none"> • Est. GIA15001, Gyeonggi-do • Est. GJA14001, Jeonbuk • Est. GJA17001, Jeju • Est. GJA17002, Jeonbuk-do • Est. PSA17001, Gyeongsangnam-do

The audit was undertaken under the specific provisions of United States’ laws and regulations, in particular:

- The Poultry Products Inspection Act (21 U.S.C. 451 *et seq.*); and
- The Food Safety and Inspection Service Regulations for Imported Poultry (9 CFR Part 327).

The audit standards applied during the review of the Republic of Korea's inspection system for poultry included: (1) all applicable legislation originally determined by FSIS as equivalent as part of the initial review process, and (2) any subsequent equivalence determinations that have been made by FSIS under provisions of the World Trade Organization’s Sanitary/Phytosanitary Agreement.

III. BACKGROUND

The United States Department of Agriculture’s Animal and Plant Health Inspection Service (APHIS), which regulates the importation of animals and animal products into the United States, has restrictions in place for Republic of Korea due to highly pathogenic avian influenza and exotic Newcastle disease. Therefore, the Republic of Korea is permitted to export only RTE fully cooked, not shelf stable poultry products and thermally processed commercially sterile

poultry products to the United States. Currently, the Republic of Korea is exporting only thermally processed commercially sterile poultry products.

From September 11, 2015 to July 31, 2017, FSIS import inspectors performed 100 percent reinspection for labeling and certification on 2,020,608 pounds of thermally processed commercially sterile poultry products from the Republic of Korea to the United States. FSIS also performed reinspection on 318,929 pounds at POE for additional types of inspections (TOIs) (e.g., product examination, condition of container TOIs), with no rejections.

The FSIS final audit reports for previous audits of the Republic of Korea's food safety system are available on the FSIS Web site at:

<http://www.fsis.usda.gov/wps/portal/fsis/topics/international-affairs/importing-products/eligible-countries-products-foreign-establishments/foreign-audit-reports>

IV. COMPONENT ONE: GOVERNMENT OVERSIGHT (E.G., ORGANIZATION AND ADMINISTRATION)

The first of six equivalence components that the FSIS auditors reviewed was Government Oversight. FSIS import regulations require the foreign inspection system to be organized by the national government in such a manner as to provide ultimate control and supervision over all official inspection activities; ensure the uniform enforcement of requisite laws; provide sufficient administrative technical support; and assign competent qualified inspection personnel at establishments where products are prepared for export to the United States.

The evaluation of all six equivalence components included a review and analysis of documentation previously submitted by the CCA as support for the responses provided in the SRT. The onsite audit component included record reviews, interviews, and observations made by the FSIS auditors. The audited facilities included the CCA's headquarters, two regional offices, one government laboratory, and eight establishments currently certified as eligible to export to the United States.

At the national level, the Republic of Korea's poultry inspection system is divided between two ministries: the Ministry of Agriculture, Food, and Rural Affairs (MAFRA) and the Ministry of Food and Drug Safety (MFDS). The Animal and Plant Quarantine Agency (APQA), an agency under MAFRA supervision, is responsible for conducting inspection activities in all of the poultry slaughter establishments that are certified for export to the United States. The MFDS is responsible for conducting inspection activities in all of the poultry processing establishments that are certified for export to the United States. Currently, there are three slaughter and five processing establishments that are certified to export to the United States. The three certified slaughter establishments supply raw poultry products to five certified processing establishments.

At the regional level, five regional offices oversee inspection activities in the establishments certified to export to the United States. The regional offices of Jungbu and Honam under MAFRA oversee slaughter related inspection activities at K01413007, SB1406001, and K01404001 slaughter establishments, while the regional offices of Busan, Gyeongin, and Gwangju under MFDS oversee processing related inspection activities at PSA17001, GIA15001,

GJA14001, GJA17001, and GJA17002 processing establishments. The FSIS auditors conducted audits of the Honam and Busan regional offices.

At the establishment level, the Quarantine Officers (QOs) are the veterinarians of MAFRA/APQA, who are responsible for conducting slaughter inspection and quarantine duties in the poultry slaughter establishments that are certified for export to the United States. The QOs operate in accordance with the provisions of Article 30 of the *Prevention of Contagious Animal Disease Act* and Article 13 of the *Livestock Products Sanitary Control Act*. The Inspection Officers (IOs) are the veterinarians of MFDS, who are responsible for conducting processing inspection duties in the United States-certified poultry processing establishments. The IOs operate in accordance with the provisions of Article 13 of the *Livestock Products Sanitary Control Act*.

The primary laws for regulating poultry inspection in the Republic of Korea are the *Quarantine and Inspection Guidelines for the Poultry Products Being Exported to the United States* (hereinafter referred to as *Guidelines*), *Livestock Products Sanitary Control Act*, *Prevention of Contagious Animal Disease Act*, *Food Sanitation Act*, and *Testing and Inspection on Food and Drugs Act*. These Acts provide the operational and regulatory authority to carry out the Republic of Korea's poultry inspection system. The FSIS auditor's review of these Acts concerning the registration of slaughter and processing establishments, inspection verification activities, and implementation of the United States export requirements indicated that the CCA has the legal authority and responsibility to enforce inspection laws and to ensure that adulterated or misbranded products are not exported to the United States.

The CCA has issued the *Guidelines* to ensure that the proper implementation of the same set of laws, regulations, and policies are applied consistently to all establishments that are certified to export to the United States. The *Guidelines* provide instructions to the inspection personnel for verification of establishments' prerequisite programs, HACCP system, product formulation checks, microbiological and chemical residue sampling and testing, sanitary control procedures, and conducting ante-mortem and post-mortem inspection of the poultry products intended for export to the United States.

The CCA requires complete separation of establishments that are certified to produce product for export to the United States from those that are not certified by assigning different establishment numbers. The FSIS auditors verified that the processing establishments that are certified for export to the United States only receive their raw poultry from three slaughter establishments that are certified for export to the United States and that none of these processing establishments received raw poultry product from any other country. In addition, the poultry slaughter establishments receive live poultry only from within the Republic of Korea.

The FSIS auditors noted that the CCA has a traceability process in place that includes a review of documents related to the movement of raw product from slaughter to processing establishments, application of the seal, and removal of the seal by inspection officials at both the slaughter and processing establishments. All products destined for export to the United States is clearly identified and segregated through all stages of production, storage, and shipment within the establishment's recordkeeping system. The FSIS auditors verified that the issuance of export

certificates is in accordance with the CCA's *Guidelines*. These procedures included securing government seals, maintaining required documentation, and signing the export certificates with two veterinary signatures.

The FSIS auditors reviewed the approval process for poultry establishments that intend to be designated as establishments that are certified to export to the United States. These establishments must operate under a HACCP system pursuant to the CCA's *Guidelines*, Article 9 of the *Livestock Products Sanitary Control Act*, and Article 42 of the *Prevention of Contagious Animal Disease Act*. Following the submission of an establishment's application to the regional office of MFDS (processing establishments) or APQA (slaughter establishments), the head of the regional office reviews the application and conducts an onsite inspection. The review and onsite inspection is in accordance with the CCA's document "*Evaluation Sheet for Designation and Audit of the Establishment for Export to the United States*" that has a design similar to FSIS's *Foreign Establishment Audit Checklist* (FSIS Form 5000-6). The regional office may approve the application considering the results of the document review, onsite audits, and implementation of any applicable corrective actions. The regional office reports the newly certified establishment to the CCA's headquarters.

The MFDS is responsible for notifying FSIS concerning approval of any new establishment or delisting of a certified establishment when it does not meet the CCA's regulatory requirements. The FSIS auditors reviewed documents specifically associated with the approval process of four establishments that were newly certified to export to the United States at establishments GJA17002, K01413007, PSA17001, and GJA17001 in 2017. These reviews indicated that the approval process referenced above was implemented as intended at these facilities.

The CCA's requirements for container specifications and product labeling are cited in Articles 4, 5, 6, and 16 of the *Livestock Products Sanitary Control Act*. This legislation explicitly states that product that does not meet processing standards and ingredient specifications shall not be stored, transported, or displayed for sale. The FSIS auditors confirmed that the CCA had verified the product packaging labels in accordance with these requirements.

The FSIS auditors noted that the inspection personnel had identified and documented deficiencies in noncompliance reports (NRs) using a similar format to FSIS' NRs. The FSIS auditors reviewed a sample of all open and closed NRs and determined that the inspection personnel have adequately described noncompliances and closed the NRs after verifying the adequacy and effectiveness of the establishment's corrective actions and preventive measures.

The FSIS auditors verified that all inspection personnel are full time government-paid employees of the national government. The document review at the CCA headquarters and regional and local inspection offices located within the audited establishments showed that the CCA requires the presence of the inspection personnel during all hours of operation in all the establishments that are certified to export to the United States.

The FSIS auditors verified that the CCA has an official Web site, "Onnara," to disseminate inspection information including updates related to the United States export requirements. The inspection personnel demonstrated the application and capabilities of the Onnara system to the

FSIS auditors, including the CCA's communication regarding FSIS requirements and training provided to the inspection and laboratory personnel. The FSIS auditors verified that the CCA has organized ongoing and annual training programs for inspection personnel, including Pathogen Reduction/HACCP, sanitation, sampling methodology, and specific requirements related to United States export requirements.

The FSIS auditors verified that the CCA maintains administrative and technical support to operate its laboratory system in accordance with the CCA's *Guidelines*. The FSIS auditors verified that the CCA conducts annual audits to ensure that its laboratory network possesses the personnel, facilities, equipment, and methods necessary to fulfill its mission. MFDS is responsible for accrediting laboratories and for conducting annual audits of the laboratories. The FSIS auditors reviewed the CCA's results of the annual audits for those facilities conducting testing of product destined for the United States.

The FSIS auditors verified that the CCA's poultry inspection system has the organizational structure to provide ultimate control, supervision, and enforcement of regulatory requirements for this component.

V. COMPONENT TWO: GOVERNMENT STATUTORY AUTHORITY AND FOOD SAFETY AND OTHER CONSUMER PROTECTION REGULATIONS (E.G., INSPECTION SYSTEM OPERATION, PRODUCT STANDARDS AND LABELING, AND HUMANE HANDLING)

The second of six equivalence components that the FSIS auditors reviewed was Government Statutory Authority and Food Safety and Other Consumer Protection Regulations. The inspection system is to provide for Good Commercial Practices (GCPs) of poultry; ante-mortem inspection of animals; post-mortem inspection of carcasses and parts; controls over condemned materials; controls over establishment construction, facilities, and equipment; inspection on the line during all slaughter operations, and at least once per shift for processing; and periodic supervisory visits to official establishments.

The FSIS auditors verified through document review and interviews that the CCA provided an appropriate number of the inspection personnel to conduct inspection, during the entire shift and for all shifts, when poultry products are slaughtered and processed to export to the United States. The regional offices maintained procedures to provide adequate inspection coverage during vacations, illnesses, or other absences. During the onsite audit of the CCA headquarters, the FSIS auditors identified the following finding:

- The CCA did not have regulatory requirements for maximum line speed allowed in poultry slaughter establishments. The FSIS auditors verified through direct observations, records review, and interviews of inspection personnel that the in-plant inspection personnel were familiar with FSIS' line speed requirements. In addition, the in-plant inspection personnel were enforcing FSIS' maximum line speed of 35 birds per minute per inspector during the slaughter operation for products destined for the United States market. The CCA did not provide regulatory requirements to its inspection personnel concerning maximum line speed allowed to ensure consistency for proper implementation of FSIS' equivalency requirements.

The FSIS auditors assessed ante-mortem and post-mortem inspection examinations through onsite record reviews, interviews, and observations of the inspection personnel performing these examinations in audited poultry slaughter establishments. The FSIS auditors verified that the inspection personnel are following the CCA's requirements and that poultry were handled in accordance with GCPs. The FSIS auditors also noted that all audited slaughter establishments meet post-mortem facility requirements, including such equipment as a distortion-free mirror, sufficient shadow-free lighting, on-line hand rinsing facilities, hang back racks, a receptacle for condemned carcasses and parts, and start/stop switches in accordance with the CCA's requirements. However, in one of the audited slaughter establishments, the establishment's post-mortem inspection station did not have a mechanism in place to stop both carcass and viscera lines at the same time to ensure synchronization of carcasses and viscera. The lack of synchronization prevents proper post-mortem inspection of carcasses with corresponding viscera by inspection personnel. The inspection personnel took immediate action instructing the establishment management to take corrective actions to achieve appropriate synchronization of the two lines.

FSIS announced changes made under the August 21, 2014, final rule "Modernization Poultry Slaughter Inspection" to all poultry-exporting countries. The CCA has implemented the new regulatory requirements for establishments that slaughter poultry per the above final rule to its poultry inspection system by updating the *Guidelines* and providing training to the inspection personnel. The FSIS auditors reviewed and verified that the updated *Guidelines* include sections addressing FSIS' new requirements for poultry slaughter establishments. The FSIS auditors also confirmed that QOs verified the new requirements at the establishment level and that each slaughter establishment had implemented the requirements.

The CCA requires official controls over segregation, removal, and destruction of product that is considered inedible or not fit for human consumption as condemned material. The CCA's general requirements for the disposal of condemned materials are outlined in Article 19 of the *Enforcement Decree of Livestock Products Processing Act*; Article 24 of the *Enforcement Rule of Livestock Products Processing Act*, and Article 18 of the *Processing of Livestock Products Act*. In addition, the CCA has requirements for application of distinctive markings of condemned containers and maintaining appropriate records of disposed materials.

The FSIS auditors observed the performance of the regional veterinarians who are responsible for conducting the periodic supervisory reviews with a minimum frequency of two supervisory reviews per year in accordance with the CCA's requirements. During the supervisory reviews, the regional veterinarians verify the proper implementation of requirements for ante-mortem inspection, post-mortem inspection, microbiological sampling including *Salmonella* sample collection in raw product (slaughter establishments), microbiological verification sampling including incubation testing (processing establishments), verification of pre-operational and operational sanitation monitoring procedures, sanitation, and HACCP verification activities including the review of Critical Control Points (CCPs). The FSIS auditors verified that the regional veterinarians are conducting this task in accordance with the CCA's requirements.

The CCA committed to provide FSIS with corrective action plans for the finding identified above. The FSIS auditors verified that the CCA continues to organize and administer its poultry inspection system in a manner that meets the core requirements for this component.

VI. COMPONENT THREE: GOVERNMENT SANITATION

The third of six equivalence components that the FSIS auditors reviewed was Government Sanitation. The FSIS auditors verified that the CCA requires each official establishment to develop, implement, and maintain written standard operating procedures to prevent direct product contamination or insanitary conditions.

The CCA has adopted the regulatory requirements of 9 CFR 416 within the *Guidelines*. The *Guidelines* supplement the general requirements for establishment construction and equipment outlined in Article 8 of the *Livestock Products Sanitary Control Act* and Article 18 of the *Enforcement Rule of Livestock Products Processing Act* by requiring establishments to develop, implement, and maintain daily pre-operational and operational sanitation procedures sufficient to prevent the direct contamination of poultry products. The quarantine and inspection officers conduct daily verification of sanitation requirements in accordance with the CCA's requirements.

The FSIS auditors assessed the adequacy of pre-operational sanitation by observing inspection personnel conducting pre-operational verification of the establishment's sanitation program at two of the audited establishments. The inspection personnel conducted this activity in accordance with the established procedures, including a pre-operational record review of the establishment's monitoring results and an organoleptic inspection of food contact surfaces of facilities, equipment, and utensils; as well as an assessment of sanitation performance standard requirements (e.g., ventilation, condensation, and structural integrity). The FSIS auditors verified the adequacy of inspection personnel's ability to identify insanitary conditions and exercise appropriate regulatory enforcement control to ensure proper sanitary conditions and operations.

The FSIS auditors observed the inspection personnel's verification of operational sanitation procedures in all eight audited establishments, comparing the overall sanitary conditions of all audited establishments to the government inspection verification records. The FSIS auditors also examined the inspection personnel's documentation of sanitation noncompliance records and verified that the inspection personnel took regulatory enforcement control actions sufficient to ensure that sanitary conditions were restored and product was protected from contamination. The FSIS auditors' observations and record reviews, including the establishment's sanitation monitoring and corrective action records, as well as those of inspection personnel documenting inspection verification results or periodic supervisory reviews, found that inspection personnel were adequately verifying whether establishments met requirements.

In four of the establishments audited, the FSIS auditors identified isolated sanitation findings that are noted in their respective individual establishment checklist provided in Appendix A of this report. Except for these findings, the CCA's poultry inspection system continues to maintain sanitary regulatory requirements that meet the core requirements for this component.

VII. COMPONENT FOUR: GOVERNMENT HAZARD ANALYSIS AND CRITICAL CONTROL POINTS (HACCP) SYSTEM

The fourth of six equivalence components that the FSIS auditors reviewed was Government HACCP System. The inspection system is to require that each official establishment develop, implement, and maintain a HACCP system.

The CCA has adopted FSIS regulatory requirements for HACCP cited in 9 CFR Part 417. The CCA requires each establishment that is certified for export to the United States to develop, implement, and maintain a HACCP system in accordance with Article 9 of the *Livestock Products Sanitary Control Act*, which conveys the authority to take enforcement actions on establishments that do not implement an adequate HACCP system.

The FSIS auditors reviewed the HACCP plans and records, observed the actual verification activities conducted by the inspection personnel, and reviewed the associated verification records generated by the inspection personnel. The FSIS auditors verified that the inspection personnel conduct verification of the establishment's HACCP plans during each shift in accordance with the instructions described in the CCA's *Guidelines*. The inspection verification methodology includes such activities as the evaluation of the establishment's written HACCP programs and observing the establishment personnel perform monitoring, verification, corrective actions, and recordkeeping activities. The inspection verification activities also include direct observation or record review of CCPs with the results of the verifications entered in the associated inspection records. In addition, the inspection personnel from regional offices or headquarters are required to verify the adequacy of the establishment's HACCP system at least twice per year.

The FSIS auditors verified through record review and observation at each establishment that the CCA requires poultry slaughter establishments to develop, implement, and maintain a program for collecting and analyzing samples at pre-chill and post-chill for indicator organisms. The FSIS auditors verified that sampling procedures for pre-chill and post-chill sampling were addressed in the HACCP systems of all the audited poultry slaughter establishments. The FSIS auditors further verified that the CCA requires that the poultry slaughter establishments that are certified to export to the United States implement and include in their HACCP plan written procedures to ensure that poultry carcasses contaminated with visible fecal material do not enter the carcass chiller. The FSIS auditors verified that the CCA required and that establishments implemented procedures to ensure that poultry carcasses were chilled immediately after slaughter operations.

The FSIS auditors conducted an onsite observation and document review of CCPs in all the audited establishments. In the poultry processing establishments that produce thermally processed commercially sterile products, the establishments have developed and followed their HACCP plans to address all food safety hazards, including microbiological hazards. Establishments are utilizing process schedules set out by the CCA, which is serving as the process authority.

In the poultry slaughter establishments, the FSIS auditors reviewed the zero tolerance (fecal material) CCP control records. In addition, the FSIS auditors, together with the inspection personnel, observed the establishments' employees conducting hands-on HACCP monitoring and verification activities for the zero tolerance CCP. Neither the FSIS auditors nor the inspection personnel observed any deviations from the critical limits. The FSIS auditors also reviewed the establishments' and inspection personnel's zero tolerance records. The review of the establishments' corrective actions in response to a few deviations from critical limits indicated that the inspection personnel adequately documented and verified the adequacy of the establishments' corrective actions, therefore meeting all four parts of corrective action requirements cited in 9 CFR 417.3(a) and in Korea's requirements.

The FSIS auditors further verified that pre-chill and post-chill sampling for generic *E. coli* was implemented in the HACCP systems of the poultry slaughter establishments, and that inspection personnel reviewed and verified the accuracy of the results of such programs. The FSIS auditors also verified that the CCA requires each slaughter establishment to provide supporting documentation to demonstrate that poultry carcasses contain less than 8% retained water after the chilling process in accordance with the CCA's requirements.

The FSIS auditors' HACCP verification activities also included interviews with establishment and inspection personnel and review of the establishment's records that provided supporting documents as part of the decision making process for the HACCP system. During this activity, the FSIS auditors identified the following HACCP recordkeeping findings:

- In one establishment, the critical limit for CCP monitoring chlorine levels in the poultry carcass chiller was set at 20-50 ppm. However, the establishment did not measure the use of 20-50 ppm free available chlorine at intake and was measuring the chlorine concentration at the output.
- In one establishment, verification activities for direct observation of CCP monitoring were conducted at a lower frequency than prescribed in the establishment's written HACCP plan.
- In two establishments, the HACCP system did not include a pre-shipment review.
- In two establishments, the verification records for direct observation of monitoring activities did not include the times the records were made.
- In three establishments, returned product was not included in the flow chart or hazard analysis.
- In four establishments, the hazard analysis did not address all potential biological, chemical, and physical food safety hazards.

The FSIS auditors determined that the CCA requires operators of establishments certified to export to the United States to develop, implement, and maintain HACCP programs. However, the audit findings listed above demonstrates that the CCA's inspection system did not effectively verify the adequacy of HACCP programs. These findings did not represent an immediate threat to public health.

VIII. COMPONENT FIVE: GOVERNMENT CHEMICAL RESIDUE TESTING PROGRAMS

The fifth of six equivalence components that the FSIS auditors reviewed was Government Chemical Residue Testing Programs. The inspection system is to submit to FSIS each year a chemical residue testing program, organized and administered by the national government, which includes random sampling of carcasses for chemical residues identified by the exporting country's poultry inspection authorities or by FSIS as potential contaminants.

Prior to the onsite visit, FSIS' residue experts reviewed the CCA's National Residue Control Program (NRCP) for 2017, sampling results for 2016, associated methods of analysis, and additional SRT responses outlining the structure of the CCA's chemical residue testing program. The FSIS auditors verified that the CCA maintains the legal authority and responsibility to develop and implement an annual NRCP in accordance with the CCA's requirements, including the *Guidelines for Residue Test for Meat* in order to prevent and control the presence of residues of veterinary drugs and contaminants in the tissues of poultry slaughtered for human consumption. The CCA has several government laboratories including the Jeju Veterinary Laboratory, referred to as Institutes of Livestock Products Sanitation Inspection (LPSI), to conduct testing of chemical residue samples in accordance with Article 6 of the *Testing and Inspection on the Food and Drugs Act* and utilizes methods in the *FSIS Chemical Laboratory Guidebook*.

The FSIS auditors verified that the inspection personnel who collect random residue samples at the poultry slaughter establishments have received sufficient training that includes such subjects as sampling methodology, identification of animals, traceability, and sample security. The FSIS auditors verified that the inspection personnel are following the NRCP sampling protocol and *Attachment 21: Rules for Inspecting the Residue of the Poultry Meat for Export, within the Guidelines*. This protocol includes sampling location, sample size, sampling frequency, and secure delivery of residue samples to designated LPSIs. Residue results are communicated to the CCA headquarters, regional offices, and inspection personnel through a web-based system.

The FSIS auditors verified that the CCA requires that LPSIs implement a laboratory quality assurance system in accordance with the CCA's Guidelines and Rules on Evaluation and Testing Laboratory for Food and Drugs. The CCA through its annual audits and oversight ensures that LPSIs were following laboratory operating procedures per instructions in the Guideline for Managing Residue Testing and Inspecting Laboratory of Poultry Products Exported to the United States. The FSIS auditors verified through document reviews and interviews that the CCA conducts its proficiency testing and annual onsite assessments of laboratories as scheduled.

The FSIS auditors visited the chemical residue section of the Jeju Veterinary Laboratory Service, which conducts analyses of official poultry product samples. The FSIS auditors interviewed the laboratory analysts to assess their technical competency, training, and knowledge of the analytical methods used to detect chemical residues. The FSIS auditors' document reviews included an evaluation of management system documents; sample handling and frequencies; timely analyses; data reporting; tissue matrices for analysis; equipment operation and printouts; minimum detection levels; percent recoveries; and corrective actions. The FSIS auditors identified the following:

- The FSIS auditors identified several records in which personnel used whiteout to correct the errors with no corresponding signature or date. The quality assurance system requires that errors must be corrected with a single line strike-through with the date and documented signature of the person making the correction.
- The FSIS auditors identified several test results that did not document the identity of the standard solution used in the analysis as a means of traceability as required by the quality assurance system.
- The FSIS auditors identified several records that did not include supervisory reviews or signatures as required by the quality assurance system.

Except for the issues above, the FSIS auditors' analysis and onsite audit verification indicated that the CCA continues to meet the core requirements for this component.

IX. COMPONENT SIX: GOVERNMENT MICROBIOLOGICAL TESTING PROGRAMS

The sixth of six equivalence components that the FSIS auditors reviewed was Government Microbiological Testing Programs. The system is to implement certain sampling and testing programs to ensure that meat, poultry, and egg products produced for export to the United States are safe and wholesome.

The evaluation of this component included a review and analysis of the CCA's *Guidelines*, which contains the regulatory requirements for establishments exporting RTE fully cooked, not shelf stable poultry products and thermally processed commercially sterile poultry products to the United States. The CCA's specific rules for testing and sampling are provided in *Salmonella Testing Methods for Poultry Products to be Exported to the United States*. The CCA is using the FSIS Microbiology Laboratory Guideline 4.08, "Isolation and Identification of *Salmonella* from Meat, Poultry, and Egg Products" to conduct *Salmonella* spp. testing for poultry carcasses. The CCA does not maintain performance standards for *Campylobacter*; however, it is using *Research Plans for Risk Assessment of Campylobacter in Meat and Meat Products*.

The CCA requires that the United States-certified establishments meet *Listeria monocytogenes* and *Salmonella* sampling requirements for thermally processed/commercially sterile RTE poultry products destined for export to the United States. In addition to the establishment's sampling protocol, the CCA has established verification testing programs that include test and hold by inspection personnel. FSIS previously determined that the Korean RTE program is equivalent to that of FSIS. In addition, the FSIS auditors verified that the CCA requires incubation tests on all thermally processed poultry products. The inspection personnel collect and submit the required samples to the government laboratories for incubation testing in accordance with the CCA's *Guidelines*. The FSIS auditors noted that the inspection personnel are not allowed to issue any export certificate until the government laboratory provides the negative results for the sampled lot. The FSIS auditor review of the implementation of the CCA's requirements did not raise any concern.

The FSIS auditors observed that the inspection personnel's *Salmonella* sample collection methodology was in accordance with the CCA's requirements that included aseptic sample collection, testing frequency, delivery of samples to government laboratories, and review of results. The FSIS auditors also verified that the inspection personnel were reviewing official testing results for *Salmonella* and verifying the establishments implement corrective measures when the establishment does not meet the performance standards.

The FSIS auditors visited the microbiological section of the Jeju Veterinary Laboratory Service, which conducts analyses of official microbiological testing of inspection verification samples on thermally processed commercially sterile poultry products. The FSIS auditors observed and verified sample receipt and handling procedures, testing methodology, timely analysis of samples, data reporting, equipment operation, technical training, and intra-lab competencies. In addition, the FSIS auditors reviewed the most recent audit report issued by the CCA. The FSIS auditors also noted that the laboratory performs its internal audits according to the CCA's Quality Assurance Manual. The FSIS auditors' observation of the laboratory processes and review of the laboratory documents including the CCA's annual audit reports and corresponding follow-up reports found no concerns. However, the FSIS auditors identified the following issues:

- The FSIS auditors observed that some of the micropipettes did not have identification numbers; each piece of laboratory equipment must have an individual identification number, according to Korea's laboratory quality control manual
- The FSIS auditors observed several media bottles in a refrigerator were not labeled as required; all media must have a label identifying the media, including the preparation and the expiration dates, according to Korea's laboratory quality control manual.
- The FSIS auditors identified several records did not have the date and signature of the responsible personnel making the correction; recorded errors must be corrected with a single line strike-through with the date and signature of the person making the correction, according to Korea's laboratory quality control manual.

Except for the issues above, the auditors' analysis and onsite audit verification indicated that the CCA continues to meet the core requirements for this component.

X. CONCLUSIONS AND NEXT STEPS

An exit meeting was held on September 22, 2017, in Seoul, Republic of Korea, with the CCA. The onsite audit did not identify any concerns that represented an immediate threat to public health. At this meeting, the FSIS auditors presented the following preliminary audit findings:

Government Statutory Authority and Food Safety and Other Consumer Protection Regulations

- The CCA did not have regulatory requirements for maximum line speed allowed in poultry slaughter establishments.

Government HACCP System

- The FSIS auditors identified inadequate government verification of HACCP requirements in seven of the eight audited establishments.

Government Chemical Residue Testing Programs

- The FSIS auditors identified inadequate government verification over implementation of the laboratory quality assurance system in the chemical residue section of the Jeju Veterinary Laboratory.

Government Microbiological Testing Programs

- The FSIS auditors identified inadequate government verification over implementation of the laboratory quality assurance system in the microbiological section of the Jeju Veterinary Laboratory.

During the audit exit meeting, the CCA committed to begin addressing the preliminary findings as presented. FSIS will evaluate the adequacy of the CCA's documentation of proposed corrective actions for the reported findings.

APPENDICES

Appendix A: Individual Foreign Establishment Audit Checklist

United States Department of Agriculture
Food Safety and Inspection Service

Foreign Establishment Audit Checklist

1. ESTABLISHMENT NAME AND LOCATION Charmfire Co., Ltd 32-29, Okyeo-gil, Haengan-myeon , Buan-gun Jeonbuk-do, Korea	2. AUDIT DATE 09/07/2017	3. ESTABLISHMENT NO. K01413007	4. NAME OF COUNTRY The Republic of Korea
	5. AUDIT STAFF OIEA International Audit Staff (IAS)		6. TYPE OF AUDIT <input checked="" type="checkbox"/> ON-SITE AUDIT <input type="checkbox"/> DOCUMENT AUDIT

Place an X in the Audit Results block to indicate noncompliance with requirements. Use O if not applicable.

Part A - Sanitation Standard Operating Procedures (SSOP) Basic Requirements	Audit Results	Part D - Continued Economic Sampling	Audit Results
7. Written SSOP		33. Scheduled Sample	
8. Records documenting implementation.		34. Species Testing	
9. Signed and dated SSOP, by on-site or overall authority.		35. Residue	
Sanitation Standard Operating Procedures (SSOP) Ongoing Requirements		Part E - Other Requirements	
10. Implementation of SSOP's, including monitoring of implementation.		36. Export	
11. Maintenance and evaluation of the effectiveness of SSOP's.		37. Import	
12. Corrective action when the SSOP's have failed to prevent direct product contamination or adulteration.		38. Establishment Grounds and Pest Control	
13. Daily records document item 10, 11 and 12 above.		39. Establishment Construction/Maintenance	X
Part B - Hazard Analysis and Critical Control Point (HACCP) Systems - Basic Requirements		40. Light	
14. Developed and implemented a written HACCP plan .		41. Ventilation	
15. Contents of the HACCP list the food safety hazards, critical control points, critical limits, procedures, corrective actions.		42. Plumbing and Sewage	
16. Records documenting implementation and monitoring of the HACCP plan.		43. Water Supply	
17. The HACCP plan is signed and dated by the responsible establishment individual.		44. Dressing Rooms/Lavatories	
Hazard Analysis and Critical Control Point (HACCP) Systems - Ongoing Requirements		45. Equipment and Utensils	
18. Monitoring of HACCP plan.		46. Sanitary Operations	
19. Verification and validation of HACCP plan.		47. Employee Hygiene	
20. Corrective action written in HACCP plan.		48. Condemned Product Control	
21. Reassessed adequacy of the HACCP plan.		Part F - Inspection Requirements	
22. Records documenting: the written HACCP plan, monitoring of the critical control points, dates and times of specific event occurrences.	X	49. Government Staffing	
Part C - Economic / Wholesomeness		50. Daily Inspection Coverage	
23. Labeling - Product Standards		51. Enforcement	X
24. Labeling - Net Weights		52. Humane Handling	
25. General Labeling		53. Animal Identification	
26. Fin. Prod. Standards/Boneless (Defects/AQL/Pork Skins/Moisture)		54. Ante Mortem Inspection	
Part D - Sampling Generic E. coli Testing		55. Post Mortem Inspection	
27. Written Procedures		Part G - Other Regulatory Oversight Requirements	
28. Sample Collection/Analysis		56. European Community Directives	O
29. Records		57. Monthly Review	
Salmonella Performance Standards - Basic Requirements		58.	
30. Corrective Actions		59.	
31. Reassessment			
32. Written Assurance			

The FSIS auditors identified the following Sanitation Performance Standards requirement:

39/51. Small holes in the ceiling and open gaps between ceiling and pipes protruding from overhead structures over exposed product in the production area.

The FSIS auditors identified the following HACCP recordkeeping components:

22/51. The establishment's verification records for calibration of monitoring instruments did not include the times the records were made.

22/51. The establishment's hazard analysis did not address all potential biological, chemical and physical food safety hazards.

61. AUDIT STAFF

OIEA International Audit Staff (IAS)

62. DATE OF ESTABLISHMENT AUDIT

09/07/2017

United States Department of Agriculture
Food Safety and Inspection Service

Foreign Establishment Audit Checklist

1. ESTABLISHMENT NAME AND LOCATION Charmfire Co., Ltd 32-29, Okyeo-gil, Haengan-myeon , Buan-gun Jeonbuk-do, Korea	2. AUDIT DATE 09/07/2017	3. ESTABLISHMENT NO. GJA17002	4. NAME OF COUNTRY The Republic of Korea
	5. AUDIT STAFF OIEA International Audit Staff (IAS)		6. TYPE OF AUDIT <input checked="" type="checkbox"/> ON-SITE AUDIT <input type="checkbox"/> DOCUMENT AUDIT

Place an X in the Audit Results block to indicate noncompliance with requirements. Use O if not applicable.

Part A - Sanitation Standard Operating Procedures (SSOP) Basic Requirements	Audit Results	Part D - Continued Economic Sampling	Audit Results
7. Written SSOP		33. Scheduled Sample	
8. Records documenting implementation.		34. Species Testing	
9. Signed and dated SSOP, by on-site or overall authority.		35. Residue	
Sanitation Standard Operating Procedures (SSOP) Ongoing Requirements		Part E - Other Requirements	
10. Implementation of SSOP's, including monitoring of implementation.		36. Export	
11. Maintenance and evaluation of the effectiveness of SSOP's.		37. Import	
12. Corrective action when the SSOP's have failed to prevent direct product contamination or adulteration.		38. Establishment Grounds and Pest Control	
13. Daily records document item 10, 11 and 12 above.		39. Establishment Construction/Maintenance	
Part B - Hazard Analysis and Critical Control Point (HACCP) Systems - Basic Requirements		40. Light	
14. Developed and implemented a written HACCP plan .		41. Ventilation	
15. Contents of the HACCP list the food safety hazards, critical control points, critical limits, procedures, corrective actions.		42. Plumbing and Sewage	
16. Records documenting implementation and monitoring of the HACCP plan.		43. Water Supply	
17. The HACCP plan is signed and dated by the responsible establishment individual.		44. Dressing Rooms/Lavatories	
Hazard Analysis and Critical Control Point (HACCP) Systems - Ongoing Requirements		45. Equipment and Utensils	
18. Monitoring of HACCP plan.		46. Sanitary Operations	
19. Verification and validation of HACCP plan.		47. Employee Hygiene	
20. Corrective action written in HACCP plan.		48. Condemned Product Control	
21. Reassessed adequacy of the HACCP plan.		Part F - Inspection Requirements	
22. Records documenting: the written HACCP plan, monitoring of the critical control points, dates and times of specific event occurrences.	X	49. Government Staffing	
Part C - Economic / Wholesomeness		50. Daily Inspection Coverage	
23. Labeling - Product Standards		51. Enforcement	X
24. Labeling - Net Weights		52. Humane Handling	O
25. General Labeling		53. Animal Identification	O
26. Fin. Prod. Standards/Boneless (Defects/AQL/Pork Skins/Moisture)		54. Ante Mortem Inspection	O
Part D - Sampling Generic E. coli Testing		55. Post Mortem Inspection	O
27. Written Procedures	O	Part G - Other Regulatory Oversight Requirements	
28. Sample Collection/Analysis	O	56. European Community Directives	O
29. Records	O	57. Monthly Review	
Salmonella Performance Standards - Basic Requirements		58.	
30. Corrective Actions	O	59.	
31. Reassessment	O		
32. Written Assurance	O		

The FSIS auditors identified the following HACCP recordkeeping components:

22/51. The establishment's HACCP plan did not include returned product in the flow chart or hazard analysis.

22/51. The establishment's HACCP plan did not include pre-shipment review.

61. AUDIT STAFF

OIEA International Audit Staff (IAS)

62. DATE OF ESTABLISHMENT AUDIT

09/07/2017

United States Department of Agriculture
Food Safety and Inspection Service

Foreign Establishment Audit Checklist

1. ESTABLISHMENT NAME AND LOCATION Ourhome Co. Ltd 134, Eogokgongdan 1-gil, Yangsan-si Gyeongsangnam-do, Korea	2. AUDIT DATE 09/11/2017	3. ESTABLISHMENT NO. PSA 17001	4. NAME OF COUNTRY The Republic of Korea
	5. AUDIT STAFF OIEA International Audit Staff (IAS)		6. TYPE OF AUDIT <input checked="" type="checkbox"/> ON-SITE AUDIT <input type="checkbox"/> DOCUMENT AUDIT

Place an X in the Audit Results block to indicate noncompliance with requirements. Use O if not applicable.

Part A - Sanitation Standard Operating Procedures (SSOP) Basic Requirements	Audit Results	Part D - Continued Economic Sampling	Audit Results
7. Written SSOP		33. Scheduled Sample	
8. Records documenting implementation.		34. Species Testing	
9. Signed and dated SSOP, by on-site or overall authority.		35. Residue	
Sanitation Standard Operating Procedures (SSOP) Ongoing Requirements		Part E - Other Requirements	
10. Implementation of SSOP's, including monitoring of implementation.		36. Export	
11. Maintenance and evaluation of the effectiveness of SSOP's.	X	37. Import	
12. Corrective action when the SSOP's have failed to prevent direct product contamination or adulteration.		38. Establishment Grounds and Pest Control	
13. Daily records document item 10, 11 and 12 above.		39. Establishment Construction/Maintenance	X
Part B - Hazard Analysis and Critical Control Point (HACCP) Systems - Basic Requirements		40. Light	
14. Developed and implemented a written HACCP plan .		41. Ventilation	
15. Contents of the HACCP list the food safety hazards, critical control points, critical limits, procedures, corrective actions.		42. Plumbing and Sewage	
16. Records documenting implementation and monitoring of the HACCP plan.		43. Water Supply	
17. The HACCP plan is signed and dated by the responsible establishment individual.		44. Dressing Rooms/Lavatories	
Hazard Analysis and Critical Control Point (HACCP) Systems - Ongoing Requirements		45. Equipment and Utensils	
18. Monitoring of HACCP plan.		46. Sanitary Operations	
19. Verification and validation of HACCP plan.		47. Employee Hygiene	
20. Corrective action written in HACCP plan.		48. Condemned Product Control	
21. Reassessed adequacy of the HACCP plan.		Part F - Inspection Requirements	
22. Records documenting: the written HACCP plan, monitoring of the critical control points, dates and times of specific event occurrences.	X	49. Government Staffing	
Part C - Economic / Wholesomeness		50. Daily Inspection Coverage	
23. Labeling - Product Standards		51. Enforcement	X
24. Labeling - Net Weights		52. Humane Handling	O
25. General Labeling		53. Animal Identification	O
26. Fin. Prod. Standards/Boneless (Defects/AQL/Pork Skins/Moisture)		54. Ante Mortem Inspection	O
Part D - Sampling Generic E. coli Testing		55. Post Mortem Inspection	O
27. Written Procedures	O	Part G - Other Regulatory Oversight Requirements	
28. Sample Collection/Analysis	O	56. European Community Directives	O
29. Records	O	57. Monthly Review	
Salmonella Performance Standards - Basic Requirements		58.	
30. Corrective Actions	O	59.	
31. Reassessment	O		
32. Written Assurance	O		

60. Observation of the Establishment

Poultry Processing Establishment Number PSA 17001 09/11/2017

The FSIS auditors identified the following SSOP requirement during pre-operational sanitation inspection verification:

11/51. Residue buildups from previous days' operation inside the pipes transferring poultry brine solution to the brine storage tank.

The FSIS auditors identified the following HACCP recordkeeping components:

22/51. The establishment's HACCP plan did not include returned product in the flow chart or hazard analysis.

22/51. The establishment's HACCP plan did not include pre-shipment review.

22/51. The establishment's hazard analysis did not address all potential biological, chemical and physical food safety hazards.

The FSIS auditors identified the following Sanitation Performance Standards (SPS) requirement:

39/51. Small holes in the ceiling and open gaps between ceiling and pipes protruding from overhead structures over exposed product in the production area.

United States Department of Agriculture
Food Safety and Inspection Service

Foreign Establishment Audit Checklist

1. ESTABLISHMENT NAME AND LOCATION Harim Corporation 14, Mangsung-ro , Mangsung-myun, IKsan-sity Jeonbuk, Republic of Korea	2. AUDIT DATE 09/12/2017	3. ESTABLISHMENT NO. GJA 14001	4. NAME OF COUNTRY The Republic of Korea
	5. AUDIT STAFF OIEA International Audit Staff (IAS)		6. TYPE OF AUDIT <input checked="" type="checkbox"/> ON-SITE AUDIT <input type="checkbox"/> DOCUMENT AUDIT

Place an X in the Audit Results block to indicate noncompliance with requirements. Use O if not applicable.

Part A - Sanitation Standard Operating Procedures (SSOP) Basic Requirements	Audit Results	Part D - Continued Economic Sampling	Audit Results
7. Written SSOP		33. Scheduled Sample	
8. Records documenting implementation.		34. Species Testing	
9. Signed and dated SSOP, by on-site or overall authority.		35. Residue	
Sanitation Standard Operating Procedures (SSOP) Ongoing Requirements		Part E - Other Requirements	
10. Implementation of SSOP's, including monitoring of implementation.		36. Export	
11. Maintenance and evaluation of the effectiveness of SSOP's.		37. Import	
12. Corrective action when the SSOP's have failed to prevent direct product contamination or adulteration.		38. Establishment Grounds and Pest Control	
13. Daily records document item 10, 11 and 12 above.		39. Establishment Construction/Maintenance	
Part B - Hazard Analysis and Critical Control Point (HACCP) Systems - Basic Requirements		40. Light	
14. Developed and implemented a written HACCP plan .		41. Ventilation	
15. Contents of the HACCP list the food safety hazards, critical control points, critical limits, procedures, corrective actions.		42. Plumbing and Sewage	
16. Records documenting implementation and monitoring of the HACCP plan.		43. Water Supply	
17. The HACCP plan is signed and dated by the responsible establishment individual.		44. Dressing Rooms/Lavatories	
Hazard Analysis and Critical Control Point (HACCP) Systems - Ongoing Requirements		45. Equipment and Utensils	
18. Monitoring of HACCP plan.		46. Sanitary Operations	
19. Verification and validation of HACCP plan.		47. Employee Hygiene	
20. Corrective action written in HACCP plan.		48. Condemned Product Control	
21. Reassessed adequacy of the HACCP plan.		Part F - Inspection Requirements	
22. Records documenting: the written HACCP plan, monitoring of the critical control points, dates and times of specific event occurrences.	X	49. Government Staffing	
Part C - Economic / Wholesomeness		50. Daily Inspection Coverage	
23. Labeling - Product Standards		51. Enforcement	X
24. Labeling - Net Weights		52. Humane Handling	O
25. General Labeling		53. Animal Identification	O
26. Fin. Prod. Standards/Boneless (Defects/AQL/Pork Skins/Moisture)		54. Ante Mortem Inspection	O
Part D - Sampling Generic E. coli Testing		55. Post Mortem Inspection	O
27. Written Procedures	O	Part G - Other Regulatory Oversight Requirements	
28. Sample Collection/Analysis	O	56. European Community Directives	O
29. Records	O	57. Monthly Review	
Salmonella Performance Standards - Basic Requirements		58.	
30. Corrective Actions	O	59.	
31. Reassessment	O		
32. Written Assurance	O		

60. Observation of the Establishment

Poultry Processing Establishment Number GJA 14001 09/12/2017

The FSIS auditors identified the following HACCP recordkeeping component:

22/51. The establishment's hazard analysis did not address all potential biological, chemical and physical food safety hazards.

61. AUDIT STAFF

OIEA International Audit Staff (IAS)

62. DATE OF ESTABLISHMENT AUDIT

09/12/2017

United States Department of Agriculture
Food Safety and Inspection Service

Foreign Establishment Audit Checklist

1. ESTABLISHMENT NAME AND LOCATION Harim Corporation 14, Mangsung-ro , Mangseong-myeon , IKsan-sim Jeollabuk-do , Korea	2. AUDIT DATE 09/13/2017	3. ESTABLISHMENT NO. K01404001	4. NAME OF COUNTRY The Republic of Korea
	5. AUDIT STAFF OIEA International Audit Staff (IAS)		6. TYPE OF AUDIT <input checked="" type="checkbox"/> ON-SITE AUDIT <input type="checkbox"/> DOCUMENT AUDIT

Place an X in the Audit Results block to indicate noncompliance with requirements. Use O if not applicable.

Part A - Sanitation Standard Operating Procedures (SSOP) Basic Requirements	Audit Results	Part D - Continued Economic Sampling	Audit Results
7. Written SSOP		33. Scheduled Sample	
8. Records documenting implementation.		34. Species Testing	
9. Signed and dated SSOP, by on-site or overall authority.		35. Residue	
Sanitation Standard Operating Procedures (SSOP) Ongoing Requirements		Part E - Other Requirements	
10. Implementation of SSOP's, including monitoring of implementation.		36. Export	
11. Maintenance and evaluation of the effectiveness of SSOP's.		37. Import	
12. Corrective action when the SSOP's have failed to prevent direct product contamination or adulteration.		38. Establishment Grounds and Pest Control	
13. Daily records document item 10, 11 and 12 above.		39. Establishment Construction/Maintenance	
Part B - Hazard Analysis and Critical Control Point (HACCP) Systems - Basic Requirements		40. Light	
14. Developed and implemented a written HACCP plan .		41. Ventilation	
15. Contents of the HACCP list the food safety hazards, critical control points, critical limits, procedures, corrective actions.		42. Plumbing and Sewage	
16. Records documenting implementation and monitoring of the HACCP plan.		43. Water Supply	
17. The HACCP plan is signed and dated by the responsible establishment individual.		44. Dressing Rooms/Lavatories	
Hazard Analysis and Critical Control Point (HACCP) Systems - Ongoing Requirements		45. Equipment and Utensils	
18. Monitoring of HACCP plan.		46. Sanitary Operations	
19. Verification and validation of HACCP plan.		47. Employee Hygiene	
20. Corrective action written in HACCP plan.		48. Condemned Product Control	
21. Reassessed adequacy of the HACCP plan.		Part F - Inspection Requirements	
22. Records documenting: the written HACCP plan, monitoring of the critical control points, dates and times of specific event occurrences.		49. Government Staffing	
Part C - Economic / Wholesomeness		50. Daily Inspection Coverage	
23. Labeling - Product Standards		51. Enforcement	X
24. Labeling - Net Weights		52. Humane Handling	
25. General Labeling		53. Animal Identification	
26. Fin. Prod. Standards/Boneless (Defects/AQL/Pork Skins/Moisture)		54. Ante Mortem Inspection	
Part D - Sampling Generic E. coli Testing		55. Post Mortem Inspection	X
27. Written Procedures		Part G - Other Regulatory Oversight Requirements	
28. Sample Collection/Analysis		56. European Community Directives	O
29. Records		57. Monthly Review	
Salmonella Performance Standards - Basic Requirements		58.	
30. Corrective Actions		59.	
31. Reassessment			
32. Written Assurance			

60. Observation of the Establishment

Poultry Slaughter Establishment Number K01404001 09/13/2017

The FSIS auditors identified the following inspection requirement:

55/51. The establishment did not have a mechanism in place to stop both carcass and viscera line at the same time. This prevents proper post mortem inspection of carcass with corresponding viscera by in-plant inspection personnel.

61. AUDIT STAFF

OIEA International Audit Staff (IAS)

62. DATE OF ESTABLISHMENT AUDIT

09/13/2017

United States Department of Agriculture
Food Safety and Inspection Service

Foreign Establishment Audit Checklist

1. ESTABLISHMENT NAME AND LOCATION Agricultural Corporation Cheonghyeon Co. Ltd 5041, Ilju Dongro, Seongsan-eup, Seogwipo-si Jeju Special Self- Governing Province, Korea	2. AUDIT DATE 09/15/2017	3. ESTABLISHMENT NO. GJA 17001	4. NAME OF COUNTRY The Republic of Korea
	5. AUDIT STAFF OIEA International Audit Staff (IAS)		6. TYPE OF AUDIT <input checked="" type="checkbox"/> ON-SITE AUDIT <input type="checkbox"/> DOCUMENT AUDIT

Place an X in the Audit Results block to indicate noncompliance with requirements. Use O if not applicable.

Part A - Sanitation Standard Operating Procedures (SSOP) Basic Requirements	Audit Results	Part D - Continued Economic Sampling	Audit Results
7. Written SSOP		33. Scheduled Sample	
8. Records documenting implementation.		34. Species Testing	
9. Signed and dated SSOP, by on-site or overall authority.		35. Residue	
Sanitation Standard Operating Procedures (SSOP) Ongoing Requirements		Part E - Other Requirements	
10. Implementation of SSOP's, including monitoring of implementation.		36. Export	
11. Maintenance and evaluation of the effectiveness of SSOP's.		37. Import	
12. Corrective action when the SSOP's have failed to prevent direct product contamination or adulteration.		38. Establishment Grounds and Pest Control	
13. Daily records document item 10, 11 and 12 above.	X	39. Establishment Construction/Maintenance	X
Part B - Hazard Analysis and Critical Control Point (HACCP) Systems - Basic Requirements		40. Light	
14. Developed and implemented a written HACCP plan .		41. Ventilation	
15. Contents of the HACCP list the food safety hazards, critical control points, critical limits, procedures, corrective actions.		42. Plumbing and Sewage	
16. Records documenting implementation and monitoring of the HACCP plan.		43. Water Supply	
17. The HACCP plan is signed and dated by the responsible establishment individual.		44. Dressing Rooms/Lavatories	
Hazard Analysis and Critical Control Point (HACCP) Systems - Ongoing Requirements		45. Equipment and Utensils	
18. Monitoring of HACCP plan.		46. Sanitary Operations	
19. Verification and validation of HACCP plan.		47. Employee Hygiene	
20. Corrective action written in HACCP plan.		48. Condemned Product Control	
21. Reassessed adequacy of the HACCP plan.		Part F - Inspection Requirements	
22. Records documenting: the written HACCP plan, monitoring of the critical control points, dates and times of specific event occurrences.	X	49. Government Staffing	
Part C - Economic / Wholesomeness		50. Daily Inspection Coverage	
23. Labeling - Product Standards		51. Enforcement	X
24. Labeling - Net Weights		52. Humane Handling	O
25. General Labeling		53. Animal Identification	O
26. Fin. Prod. Standards/Boneless (Defects/AQL/Pork Skins/Moisture)		54. Ante Mortem Inspection	O
Part D - Sampling Generic E. coli Testing		55. Post Mortem Inspection	O
27. Written Procedures	O	Part G - Other Regulatory Oversight Requirements	
28. Sample Collection/Analysis	O	56. European Community Directives	O
29. Records	O	57. Monthly Review	
Salmonella Performance Standards - Basic Requirements		58.	
30. Corrective Actions	O	59.	
31. Reassessment	O		
32. Written Assurance	O		

60. Observation of the Establishment

Poultry Processing Establishment Number GJA 17001 09/15/2017

The FSIS auditors identified the following SSOP recordkeeping component:

13/51. The establishment's sanitation corrective action records did not include preventative measures as it was required in the sanitation plan.

The FSIS auditors identified the following HACCP recordkeeping components:

22/51. The establishment's HACCP plan did not include returned product in the flow chart or hazard analysis.

22/51. The establishment's hazard analysis did not address all potential biological, chemical and physical food safety hazards.

22/51. The establishment's verification (direct observation of monitoring activities) records did not include the times the records were made.

The FSIS auditors identified the following Sanitation Performance Standards requirements:

39/51. Small holes in the ceiling and open gaps between ceiling and pipes protruding from overhead structures over exposed product in the production area.

United States Department of Agriculture
Food Safety and Inspection Service

Foreign Establishment Audit Checklist

1. ESTABLISHMENT NAME AND LOCATION Maniker Co., Ltd 73, hayongdu3-gil, Chungju-si Chungbuk-do , Korea/	2. AUDIT DATE 09/18/2017	3. ESTABLISHMENT NO. SB1406001	4. NAME OF COUNTRY The Republic of Korea
	5. AUDIT STAFF OIEA International Audit Staff (IAS)		6. TYPE OF AUDIT <input checked="" type="checkbox"/> ON-SITE AUDIT <input type="checkbox"/> DOCUMENT AUDIT

Place an X in the Audit Results block to indicate noncompliance with requirements. Use O if not applicable.

Part A - Sanitation Standard Operating Procedures (SSOP) Basic Requirements	Audit Results	Part D - Continued Economic Sampling	Audit Results
7. Written SSOP		33. Scheduled Sample	
8. Records documenting implementation.		34. Species Testing	
9. Signed and dated SSOP, by on-site or overall authority.		35. Residue	
Sanitation Standard Operating Procedures (SSOP) Ongoing Requirements		Part E - Other Requirements	
10. Implementation of SSOP's, including monitoring of implementation.		36. Export	
11. Maintenance and evaluation of the effectiveness of SSOP's.		37. Import	
12. Corrective action when the SSOP's have failed to prevent direct product contamination or adulteration.		38. Establishment Grounds and Pest Control	X
13. Daily records document item 10, 11 and 12 above.		39. Establishment Construction/Maintenance	
Part B - Hazard Analysis and Critical Control Point (HACCP) Systems - Basic Requirements		40. Light	
14. Developed and implemented a written HACCP plan .		41. Ventilation	
15. Contents of the HACCP list the food safety hazards, critical control points, critical limits, procedures, corrective actions.		42. Plumbing and Sewage	
16. Records documenting implementation and monitoring of the HACCP plan.		43. Water Supply	
17. The HACCP plan is signed and dated by the responsible establishment individual.		44. Dressing Rooms/Lavatories	
Hazard Analysis and Critical Control Point (HACCP) Systems - Ongoing Requirements		45. Equipment and Utensils	
18. Monitoring of HACCP plan.		46. Sanitary Operations	
19. Verification and validation of HACCP plan.		47. Employee Hygiene	
20. Corrective action written in HACCP plan.		48. Condemned Product Control	
21. Reassessed adequacy of the HACCP plan.		Part F - Inspection Requirements	
22. Records documenting: the written HACCP plan, monitoring of the critical control points, dates and times of specific event occurrences.	X	49. Government Staffing	
Part C - Economic / Wholesomeness		50. Daily Inspection Coverage	
23. Labeling - Product Standards		51. Enforcement	X
24. Labeling - Net Weights		52. Humane Handling	
25. General Labeling		53. Animal Identification	
26. Fin. Prod. Standards/Boneless (Defects/AQL/Pork Skins/Moisture)		54. Ante Mortem Inspection	
Part D - Sampling Generic E. coli Testing		55. Post Mortem Inspection	
27. Written Procedures		Part G - Other Regulatory Oversight Requirements	
28. Sample Collection/Analysis		56. European Community Directives	O
29. Records		57. Monthly Review	
Salmonella Performance Standards - Basic Requirements		58.	
30. Corrective Actions		59.	
31. Reassessment			
32. Written Assurance			

60. Observation of the Establishment

Poultry Slaughter Establishment Number SB1406001 09/18/2017

The FSIS auditors identified the following HACCP recordkeeping component:

22/51. The establishment's critical limit for CCP monitoring chlorine levels in the poultry carcass chiller was set at 20-50 ppm. However, the establishment did not measure the use of 20-50 ppm free available chlorine at intake.

The FSIS auditors identified the following Sanitation Performance Standards requirement:

38/51. Presence of two insects in the chemical storage room.

61. AUDIT STAFF

OIEA International Audit Staff (IAS)

62. DATE OF ESTABLISHMENT AUDIT

09/18/2017

United States Department of Agriculture
Food Safety and Inspection Service

Foreign Establishment Audit Checklist

1. ESTABLISHMENT NAME AND LOCATION Maniker F&G Co., Ltd 36-2, Baegokdaero 144beon-gil, Ildong- myeon, Cheoin-gu Yongin-si,mGyeonggi-do Korea	2. AUDIT DATE 09/19/2017	3. ESTABLISHMENT NO. GIA 15001	4. NAME OF COUNTRY The Republic of Korea
	5. AUDIT STAFF OIEA International Audit Staff (IAS)		6. TYPE OF AUDIT <input checked="" type="checkbox"/> ON-SITE AUDIT <input type="checkbox"/> DOCUMENT AUDIT

Place an X in the Audit Results block to indicate noncompliance with requirements. Use O if not applicable.

Part A - Sanitation Standard Operating Procedures (SSOP) Basic Requirements	Audit Results	Part D - Continued Economic Sampling	Audit Results
7. Written SSOP		33. Scheduled Sample	
8. Records documenting implementation.		34. Species Testing	
9. Signed and dated SSOP, by on-site or overall authority.		35. Residue	
Sanitation Standard Operating Procedures (SSOP) Ongoing Requirements		Part E - Other Requirements	
10. Implementation of SSOP's, including monitoring of implementation.		36. Export	
11. Maintenance and evaluation of the effectiveness of SSOP's.		37. Import	
12. Corrective action when the SSOP's have failed to prevent direct product contamination or adulteration.		38. Establishment Grounds and Pest Control	
13. Daily records document item 10, 11 and 12 above.		39. Establishment Construction/Maintenance	
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18. Monitoring of HACCP plan.		46. Sanitary Operations	
19. Verification and validation of HACCP plan.	X	47. Employee Hygiene	
20. Corrective action written in HACCP plan.		48. Condemned Product Control	
21. Reassessed adequacy of the HACCP plan.		Part F - Inspection Requirements	
22. Records documenting: the written HACCP plan, monitoring of the critical control points, dates and times of specific event occurrences.		49. Government Staffing	
Part C - Economic / Wholesomeness		50. Daily Inspection Coverage	
23. Labeling - Product Standards		51. Enforcement	X
24. Labeling - Net Weights		52. Humane Handling	O
25. General Labeling		53. Animal Identification	O
26. Fin. Prod. Standards/Boneless (Defects/AQL/Pork Skins/Moisture)		54. Ante Mortem Inspection	O
Part D - Sampling Generic E. coli Testing		55. Post Mortem Inspection	O
27. Written Procedures	O	Part G - Other Regulatory Oversight Requirements	
28. Sample Collection/Analysis	O	56. European Community Directives	O
29. Records	O	57. Monthly Review	
Salmonella Performance Standards - Basic Requirements		58.	
30. Corrective Actions	O	59.	
31. Reassessment	O		
32. Written Assurance	O		

The FSIS auditors identified the following HACCP recordkeeping component:

19/51. The establishment conducted its on-going verification activities (direct observation of CCP monitoring) at a lower frequency than prescribed in the written HACCP plan.

Appendix B: Foreign Country Response to Draft Final Audit Report

To: Mary H. Stanley
International Coordination Executive
Office of International Coordination, FSIS

Cc: Peter J. Olson
Senior Agricultural Attaché, Office of Agricultural Affairs, U.S. Embassy

February 20, 2018

Subject : Submission of Corrective Action Report

Dear Mary H. Stanley,

With regard to Samgyetang products for the U.S. export, FSIS of the United States Department of Agriculture conducted audit on the establishments registered for export in conjunction with the Ministry of Food and Drug Safety (MFDS) and the Animal and Plant Quarantine Agency (APQA).

During this period, the Korean government was deeply impressed by the professional audit of auditors with high understanding of the Korean government and establishments, and believes that national livestock products sanitary control system and capacity of establishments for the U.S. export will be strengthened through this experience.

In addition, MFDS, MAFRA, and APQA held a meeting on 27 October 2017 to give a lecture on the U.S. legislations of sanitary control to the governmental officials responsible for export and persons responsible in the export establishments, and to discuss the direction and method for improvement with regard to the equivalence verification of the U.S.

The corrective action report attached includes the efforts of corrective actions (attachment 1). We translated HACCP plans, etc. of available exporting establishments and included this content in attachment 2 because it was difficult to deliver the improvement on prerequisite requirements and HACCP of exporting establishments through the report. You can find the specific content if you enlarge the pictures.

The corrective action report (attachment 1) is the summary of corrective actions for observations on governments and exporting establishments made by FSIS auditors. The confirmation on corrective

Osong Health Technology Administration Complex
187 Osongsaengmyeong2(i)-ro, Heungdeok-gu,
Cheongju-si, Chungcheongbuk-do, 28159
Republic of Korea

actions of Jeju Veterinary Laboratory Service and eight exporting establishments was conducted by on-site visit of officials responsible for export in MFDS and APQA. The officials of MFDS and APQA also confirmed the documents of corrective actions.

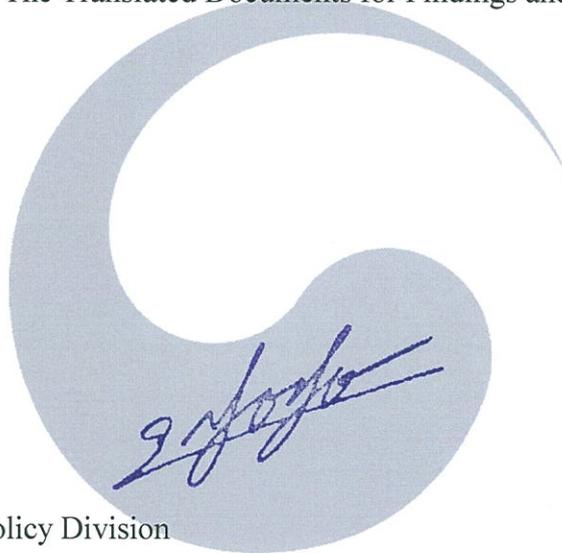
The Korean government hopes the corrective action report will be the enough response to the FSIS audit report. Please do not hesitate to contact us if you have any question with regard to this matter.

Attachment 1 : Corrective Actions Taken on the U.S. Audit Report

Attachment 2 : Appendix A. The Translated Documents for Findings and Corrective Actions

Sincerely,

Seoung Yong LEE Ph.D.
Director of Imported Food Policy Division
Imported Food Safety Policy Bureau
Ministry of Food and Drug Safety
REPUBLIC OF KOREA



Corrective Actions Taken on the U.S. Audit Report

1. Government Statutory Authority and Food Safety and Other Consumer Protection Regulations

- Regulatory requirements for the maximum permissible line speed in the slaughterhouses are not provided.
 - The maximum permissible line speed in the slaughterhouses (35 animals/min) will be specified in the Quarantine and Inspection Guidelines for Poultry Products Exported to the U.S. (hereinafter referred to as the "Guidelines"). And the revised Guidelines reflecting these details will be provided to the U.S. during the first half of 2018.
 - In addition, as the U.S. auditors have already confirmed on the site, Korean inspectors will keep complying with the permissible line speed in the slaughterhouse even before the relevant matters are specified in the Guidelines.
 - Moreover, with regard to the measures of employing inspectors from the Livestock Health Control Association (LHCA) which the Korean government has suggested in May 2017, no official reply has been given the U.S. government yet. So, we would like to request a positive reply from the U.S. as soon as possible.
 - As explained in the previous letter, currently the LHCA inspectors are lawfully conducting tasks to assist inspections of livestock products for domestic consumption pursuant to the relevant Korean livestock sanitary control regulations. And all inspection activities that they are carrying out will be under the direct supervision by the central government quarantine officer (official veterinarian).
 - Based on the U.S. "9 CFR 381.196 Eligibility of foreign countries for importation of poultry products into United States," the Korean government believes that the employment of LHCA inspectors in slaughterhouses for export in Korea will not be a problem for recognition of equivalence.

2. Government Chemical Residue Testing Programs

- When preparing documentation, one-line strike-out, signature of the person making corrections and date need to be included.
 - When modifying the records, one-line strike-out, signature of the person making modifications and date are started to include.

Reference 1

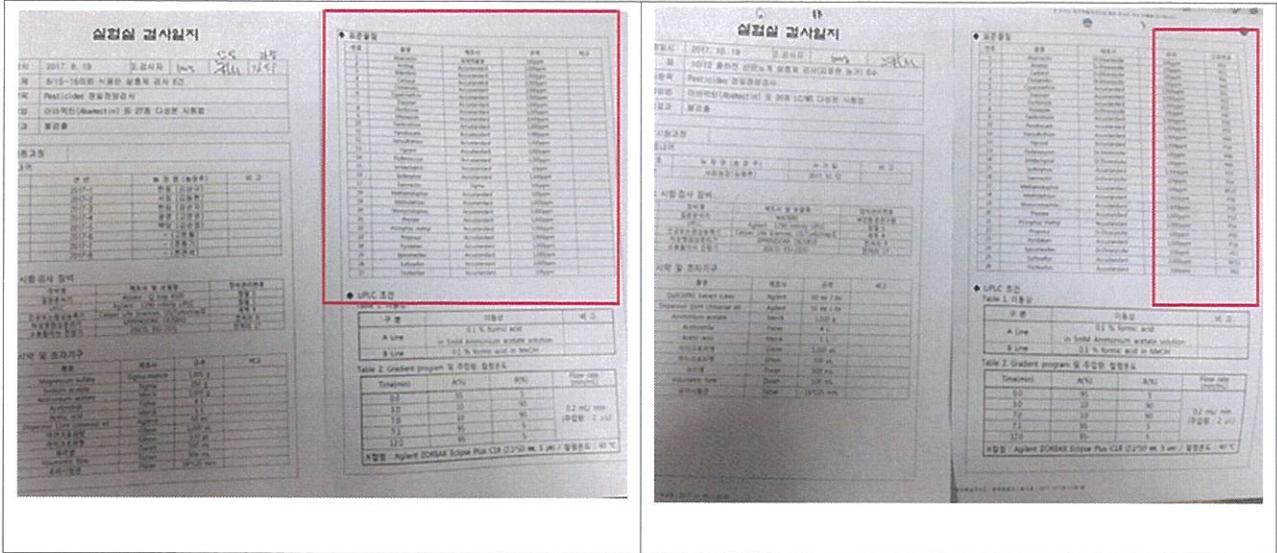
Finding	Corrective Action

* Refer to Appendix A. Reference 1 for the translation version of the above documents.

- Inadequate names of the standards for residues
 - Unique control numbers of the reference standards are recorded in relevant documents such as the laboratory testing diary, etc.

Reference 2

Finding	Corrective Action



* Refer to Appendix A. Reference 2 for the translation version of the above documents.

- There is no supervisor review or signature when organizing the results of the residue testing
 - Management is carried out by adding supervisor's signature to relevant documents such as the experiment log, etc.

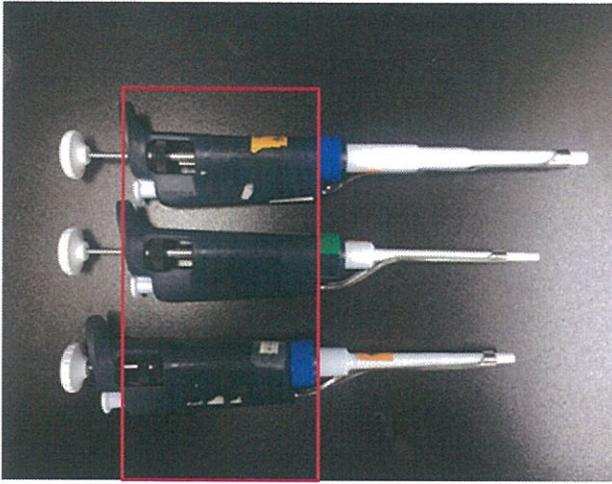
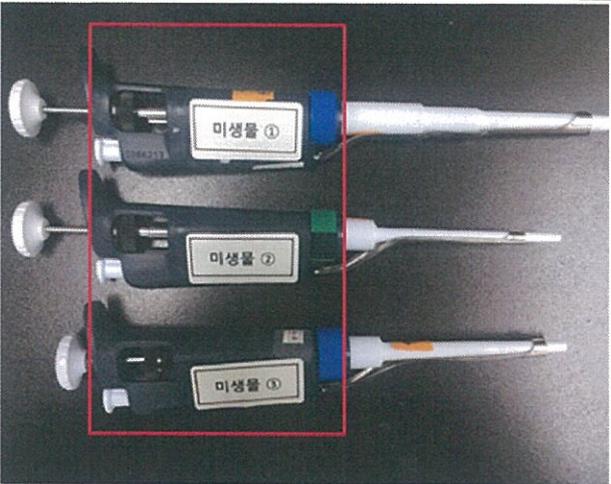
Reference 3

Finding	Corrective Action

* Refer to Appendix A. Reference 3 for the translation version of the above documents.

3. Government Microbiological Testing Programs

- Micropipettes in the laboratory do not have identification numbers.
 - Assigned a unique serial number to the micropipette used in the laboratory.

Finding	Corrective action
 <p>The image shows three micropipettes arranged vertically. A red rectangular box highlights the central portion of each pipette, where a label would typically be located. No labels are present on any of the pipettes.</p>	 <p>The image shows three micropipettes arranged vertically. A red rectangular box highlights the same central portion as in the 'Finding' image. Each pipette now has a white label with Korean text and a circled number (1, 2, and 1 respectively from top to bottom) attached to it.</p>

- No labels are attached to the culture broth
 - Labels indicating the name of culture medium, manufacturer, date of manufacture, expiration date, etc. are attached to the culture bottles.

Finding	Corrective Action



배지명	LSE broth		
농도	-	제조사	고현화
제조일	18.1.16	유효기간	18.1.22

- There is no modification date and signature on the microbiological testing records when medications are made.
- When a correction occurs, draw a line over and modify it, and include the changer's signature and the date.

Reference 4

Finding	Corrective action																																																																																																
<p>2017. 9. 29 PM 5:00PM</p> <table border="1"> <thead> <tr> <th>구분</th> <th>배지명</th> <th>조건</th> <th>배지명</th> <th>조건</th> <th>배지명</th> </tr> </thead> <tbody> <tr> <td>인스테인리액</td> <td>Fraser/FALCAM Broth</td> <td>36°C / 24-48시간</td> <td>FALCAM Agar (회색)</td> <td>37°C / 48시간</td> <td>Blood-agar (회색)</td> </tr> <tr> <td>황색포도상구균</td> <td>TSB</td> <td>36°C / 18시간</td> <td>BairD-Parker (회색)</td> <td>37°C / 24시간</td> <td>Blood-agar (회색) Methyl red (노란)</td> </tr> <tr> <td>말포스트리디움</td> <td>Cooked Meat</td> <td>35°C / 18-24시간</td> <td>TSC agar (회색)</td> <td>37°C / 18-24시간</td> <td>Blood-agar (회색)</td> </tr> <tr> <td>살모넬라</td> <td>DM/F77cv</td> <td>35°C / 42°C / 18-24시간</td> <td>KLD(회색)</td> <td>37°C / 18-24시간</td> <td>Flag-agar (회색)</td> </tr> <tr> <td>캠필로박터</td> <td>Bottom broth</td> <td>1차배양:36°C/4-5시간 2차배양:40°C/24-48시간</td> <td>Cam agar (회색)</td> <td>37°C / 18-24시간</td> <td></td> </tr> </tbody> </table> <p>특수병원적감사 및 확인실형</p> <table border="1"> <thead> <tr> <th>구분</th> <th>결과</th> <th>확인일자</th> </tr> </thead> <tbody> <tr> <td>인스테인리액</td> <td>Gram 양성(+), comp test, catalase test(+)</td> <td>vitak, PCR</td> </tr> <tr> <td>황색포도상구균</td> <td>Gram 양성(+), catalase test(+), coagulase test(+)</td> <td>vitak, PCR</td> </tr> <tr> <td>말포스트리디움</td> <td>skin milk test(음성), Gram 양성</td> <td>PCR</td> </tr> <tr> <td>살모넬라</td> <td>Gram 양성(-), TSI, UREA</td> <td>vitak, PCR</td> </tr> <tr> <td>캠필로박터</td> <td>Gram 양성(-)</td> <td>PCR</td> </tr> </tbody> </table>	구분	배지명	조건	배지명	조건	배지명	인스테인리액	Fraser/FALCAM Broth	36°C / 24-48시간	FALCAM Agar (회색)	37°C / 48시간	Blood-agar (회색)	황색포도상구균	TSB	36°C / 18시간	BairD-Parker (회색)	37°C / 24시간	Blood-agar (회색) Methyl red (노란)	말포스트리디움	Cooked Meat	35°C / 18-24시간	TSC agar (회색)	37°C / 18-24시간	Blood-agar (회색)	살모넬라	DM/F77cv	35°C / 42°C / 18-24시간	KLD(회색)	37°C / 18-24시간	Flag-agar (회색)	캠필로박터	Bottom broth	1차배양:36°C/4-5시간 2차배양:40°C/24-48시간	Cam agar (회색)	37°C / 18-24시간		구분	결과	확인일자	인스테인리액	Gram 양성(+), comp test, catalase test(+)	vitak, PCR	황색포도상구균	Gram 양성(+), catalase test(+), coagulase test(+)	vitak, PCR	말포스트리디움	skin milk test(음성), Gram 양성	PCR	살모넬라	Gram 양성(-), TSI, UREA	vitak, PCR	캠필로박터	Gram 양성(-)	PCR	<p>2017. 9. 29 PM 5:00PM</p> <p>2017. 9. 29 PM 5:00PM</p> <table border="1"> <thead> <tr> <th>구분</th> <th>st</th> <th>st-1</th> <th>10'</th> <th>10⁻¹</th> <th>산정(CFU/ml)</th> <th>결과(CFU/g)</th> </tr> </thead> <tbody> <tr> <td>1-1</td> <td>10</td> <td>9</td> <td>1</td> <td>-</td> <td>9.5</td> <td>95</td> </tr> <tr> <td>1-2</td> <td>6</td> <td>10</td> <td>1</td> <td>1</td> <td>8</td> <td>80</td> </tr> <tr> <td>1-3</td> <td>1</td> <td>1</td> <td>-</td> <td>-</td> <td>1</td> <td>10</td> </tr> <tr> <td>1-4</td> <td>-</td> <td>1</td> <td>-</td> <td>-</td> <td>0.5</td> <td>5</td> </tr> <tr> <td>1-5</td> <td>2</td> <td>1</td> <td>-</td> <td>-</td> <td>1.5</td> <td>15</td> </tr> </tbody> </table> <p>*Blank 이상없음</p>	구분	st	st-1	10'	10 ⁻¹	산정(CFU/ml)	결과(CFU/g)	1-1	10	9	1	-	9.5	95	1-2	6	10	1	1	8	80	1-3	1	1	-	-	1	10	1-4	-	1	-	-	0.5	5	1-5	2	1	-	-	1.5	15
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1-5	2	1	-	-	1.5	15																																																																																											

* Refer to Appendix A. Reference 4 for the translation version of the above documents.

4. Findings by the Establishment for Export

Charmfre (Slaughterhouse, K01404001)

- Found holes in the ceiling and gaps in the workplace
 - Completed finishing touches of holes in the ceiling and gaps in the workplace (finishing touch inside the ceiling)

Finding	Corrective Action
	

- Missing records such as the date of calibration date, time of verification, etc.
 - Changes for the calibration log and prerequisite program standard document are completed by adding the date of inspection, time of inspection, and the name of inspector.

Reference 5

Finding	Corrective Action
---------	-------------------

검교정 대장 (자체-온도계)							작성	검토	승인	
위험한계							±2℃ 이하	주기	자가 1회/9개월	
신규 구입 온도계는 공인기관에서 발행한 검교정장사 성적서 첨부										
NO.	계측기명	교정일자	교정내역		자기교정일	처리결과	비고			
			표준값	차이값				표준값	오차값	
1	디지털온도계 FOXPM5000	17.06.30	6.8	6.4	-0.4	17.09.29	적합□부적합□	외교장실		
2	디지털온도계 FOXPM5000	17.06.30	7.2	8.4	1.2	17.09.29	적합□부적합□	1.2라인선불실		
3	디지털온도계 FOXPM5000	17.06.30	6.8	6.5	-0.3	17.09.29	적합□부적합□	부산물선불포장실		
4	디지털온도계 FOXPM5000	17.06.30	7.1	6.7	-0.4	17.09.29	적합□부적합□	포장육작업장		
5	디지털온도계 FOXPM5000	17.06.30	3.5	3.9	0.4	17.09.29	적합□부적합□	원료보관실		
6	디지털온도계 FOXPM5000	17.06.30	3.5	3.8	0.3	17.09.29	적합□부적합□	로딩반		
7	금속용결기 1	17.06.30	-7.4	-7.2	0.2	17.09.29	적합□부적합□	가공실		
8	금속용결기 2	17.06.30	-10.5	-9.2	-0.7	17.09.29	적합□부적합□	가공실		
9	디지털온도계 FOXPM5000	17.06.30	7.6	7.0	-0.6	17.09.29	적합□부적합□	양념육작업장		
10	디지털온도계 FOXPM5000	17.06.30	8.7	8.5	-0.2	17.09.29	적합□부적합□	MCM실		
11	디지털온도계 FOXPM5000	17.06.30	8.0	8.3	0.3	17.09.29	적합□부적합□	오리가공실		
12	디지털온도계 FOXPM5000	17.06.30	8.5	8.5	0	17.09.29	적합□부적합□	피켓팅실		
13	디지털온도계 FOXPM5000	17.06.30	4.2	4.4	0.2	17.09.29	적합□부적합□	냉장관제품		

검교정 대장 (자체-온도계)					작성	검토	승인		
위험한계					±2℃ 이하	주기	자가 1회/9개월	공인기관 1회/년	
신규 구입 온도계는 공인기관에서 발행한 검교정장사 성적서 첨부									
NO.	계측기명	교정일자	교정내역		자기교정일	처리결과	비고		
			표준값	차이값				표준값	오차값
1	디지털온도계 FOXPM5000					적합□부적합□	외교장실		
2	디지털온도계 FOXPM5000					적합□부적합□	1.2라인선불실		
3	디지털온도계 FOXPM5000					적합□부적합□	부산물선불포장실		
4	디지털온도계 FOXPM5000					적합□부적합□	포장육작업장		
5	디지털온도계 FOXPM5000					적합□부적합□	원료보관실		
6	디지털온도계 FOXPM5000					적합□부적합□	로딩반		
7	금속용결기 1					적합□부적합□	가공실		
8	금속용결기 2					적합□부적합□	가공실		

* Refer to Appendix A. Reference 5 for the translation version of the above documents.

- Poor risk analysis of the establishment that comprehensively considers the hazards (B, C, P)
 - After identifying potential hazards (B, C, P) that can occur in raw materials, secondary materials, and production processes, established preventive measures and control methods so that these can be controlled or managed below the permissible limit. Reflecting these, the changes were made for the HACCP standard document and applied during the operations.

Reference 6

Finding	Corrective Action
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3.2 공정단계 위해요소분석 및 위험도평가

위해 구분 : 화학물학적, 생물학적 위험도 기준 : S(중위), M(중중위), L(저중중위), C(저중중중위)

NO	공정	위해요소	위해분석		위험도 평가		
			위해분석	예방 조치 및 관리방법	잠재	유발	위험도
1-1	생계업고	환경성 미생물	- 생계도면병해제 오염	- 시계 오염제 상거 미흡시	낮음	보통	M
			- 장근 낙 병해제 오염	- 계류 중 시계 제거			
		- 이리장거 의한 병해제 고차오염	- 생계지렁이 의한 병해제 고차오염				
		- 생계지렁이 의한 병해제 고차오염					
1-2	용수 알뜰 입고/보관	환경성 미생물	- 용수 내 미생물계 미생 고차오염	- 정기적인 저수조 소독 및 알스 (1회/연간)	낮음	보통	S
			- 저수조 오염제 의한 고차오염				
1-3	용수수입고/보관	유해 화학물질	- 염소함 과다 투입 인한 동물살 피고	- 정화공도 고장/부품 불량	낮음	보통	S
			- 소독제 보관용기에 부정확히 용액 가함	- 유조용수측정장치(1회/일)			
1-4	모장지 펄스 입고/보관	C 유해 화학물질	- 프랑자 제조 관련 유해 시 유출	- 시용장착시 확인	낮음	높음	S
			- 프랑자 제조 관련 유해 시 유출	- 입고 보관 철저			
		D 환경성 미생물	- 사용 후 세척불량 또는 입고 시 세척상태 불량에 따른 고차오염	- 사용 후 세척 실시(양액)	낮음	높음	S
			- 사용 후 세척불량 또는 입고 시 세척상태 불량에 따른 고차오염	- 입고 시 세척상태 검사(양액)			
2-1	계류	B 환경성 미생물	- 생계 도면제 분변 오염 계류 탕 발생된 시계형 미생 고차오염	- 탕금 전 시계 제거	낮음	보통	S
			- 온수스트레스 계류시간 부족으로 미이주미니 내 시로균류	- 온수스트레스 최소화			
3	생계장점	B 환경성 미생물	- 용입된 가열오염 관련 부위세균 증가	- 철저한 계류 실시	낮음	보통	M
			- 용입된 가열오염 관련 부위세균 증가	- 철저한 계류 실시			

3.2 공정단계 위해요소분석 및 위험도평가

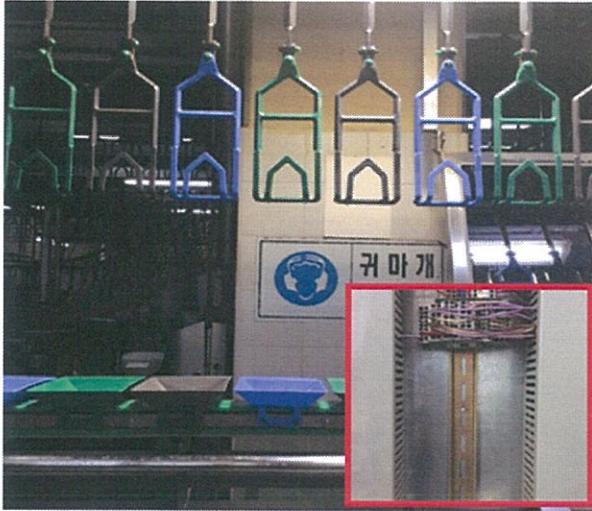
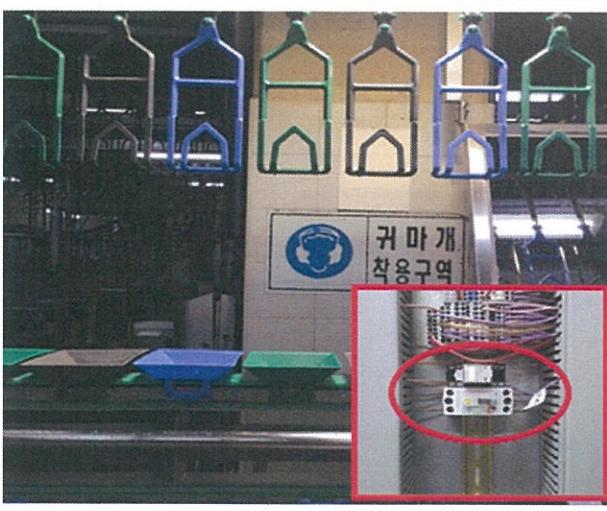
위해 구분 : 화학물학적, 생물학적 위험도 기준 : S(중위), M(중중위), L(저중중위), C(저중중중위)

NO	공정	위해요소	위해분석		위험도 평가				
			위해분석	예방 조치 및 관리방법	잠재	유발	위험도		
1-1	생계업고	B 다발균	- 생계 고구 분포에 부착	- 시계 및 오염제 의 상거	낮음	보통	M		
			- 이리장거 낙 및 인접 계류상 태 소독으로 인한 병해제 오염	- 시계 낙거의 세척 및 발라내기					
		B 발효세균	- 계류 탕 유출에 의한 병해제 오염	- 생계 전 계류의 세척 및 소독 실시	낮음	보통	M		
			- 계류 탕 유출에 의한 병해제 오염	- 계류 탕 제거 WACF2영양 제거					
		B 일로블라	- 계류 탕 유출에 의한 병해제 오염	- 생계 탕 제거 후 WACF2영양 제거 및 소독	낮음	보통	M		
			- 계류 탕 유출에 의한 병해제 오염	- 생계 탕 제거 후 WACF2영양 제거 및 소독					
		C 발효균류	- 생계지렁이 모두 소독 시별 후과시 과다 분포로 인한 계류기 오염	- 모두 소독 시별 철저 점검	거의 없음	높음	S		
			- 생계지렁이 모두 소독 시별 후과시 과다 분포로 인한 계류기 오염	- 생계지렁이 기서 교육					
		C 발효균류	- 탕금의 과다유출 또는 부위 부 위확거인 미흡	- 탕금발생물검사 실시	낮음	보통	M		
			- 탕금의 과다유출 또는 부위 부 위확거인 미흡						
		P 사균	P 균속	P 플라즈미드	P 사균	- 노모드 미생물 고배 양고 시 용수유입의 차단	거의 없음	높음	S
						- 노모드 미생물 고배 양고 시 용수유입의 차단			
1-2	용수, 발효 입고/보관	B 다발균	B 다발균	- 용수/발효 탕금 유출관리 예방 으로 인한 병해제 오염	낮음	보통	M		
				- 용수/발효 탕금 유출관리 예방 으로 인한 병해제 오염				- 탕금 유출 관리 철저	
1-3	용수수입고/보관	C 유해 화학물질	C 유해 화학물질	- 용수/발효 탕금 유출관리 예방 으로 인한 병해제 오염	낮음	보통	M		
				- 용수/발효 탕금 유출관리 예방 으로 인한 병해제 오염				- 탕금 유출 관리 철저	
1-4	모장지 펄스 입고/보관	D 환경성 미생물	D 환경성 미생물	- 용수/발효 탕금 유출관리 예방 으로 인한 병해제 오염	낮음	보통	M		
				- 용수/발효 탕금 유출관리 예방 으로 인한 병해제 오염				- 탕금 유출 관리 철저	
2-1	계류	B 환경성 미생물	B 환경성 미생물	- 용수/발효 탕금 유출관리 예방 으로 인한 병해제 오염	낮음	보통	M		
				- 용수/발효 탕금 유출관리 예방 으로 인한 병해제 오염				- 탕금 유출 관리 철저	
3	생계장점	B 환경성 미생물	B 환경성 미생물	- 용수/발효 탕금 유출관리 예방 으로 인한 병해제 오염	낮음	보통	M		
				- 용수/발효 탕금 유출관리 예방 으로 인한 병해제 오염				- 탕금 유출 관리 철저	

* Refer to Appendix A, Reference 6 for the translation version of the above documents.

□ **Harim** (Slaughterhouse, K01404001)

- Absence of a system capable of simultaneously stopping carcass and viscera lines
 - By improving the electric circuit, the post-mortem inspection facilities are synchronized so that carcass shackle and the viscera conveyor would stop at the same time when the slaughter line is stopped.

Finding	Corrective Action
	

□ **Maniker** (Slaughterhouse, SB1406001)

- Requested change of location for measuring chlorine concentration (20 – 50 ppm) according to CCP critical limits.
- Changed the location of measuring chlorine concentration according to the CCP limit standards from the point where the chiller edge where coolant overflows to the coolant inlet.

Finding	Corrective Action	
		
Location of measuring chlorine concentration	2 nd Chiller Inlet	3 rd Chiller Inlet

- With regard to the change of the location for measuring chlorine concentration, CP1 for identifying the chlorine concentration before work is established additionally in the HACCP standard document and put into operation. Each measurement position is set to be the position where coolant and chlorine water are inflowed, so that the chlorine concentration would be stably controlled.

Reference 7

Additionally established CP1 to check the concentration of chlorine before the

start of work

CP1(작업 전 염소 투입 농도)

작성	검토	승인
정희봉	-	

제조공정	CP	관리항목	모니터링		개선조치	검출 방법	검출책임자	기록물
			한계기준	주기				
예비 냉각	CP1	2차 필터 염소농도	20~50ppm	1회/일 (작업 전) 모니터링 (Q.A) 2차 필터 넘 치수+염소 수 나머지 용,3차 필터 넘치수+염 소수 나머지 중에서 40ml일당 기름 이용한 여 필터 지 역 후 검사 기름 이용한 염도 측 민.	모니터링요원은 모니터링 일지에 이월사항을 기재 하고 즉시 생산팀장 및 상부에 보고 한다. 1.원인분석 : -염소피어프라인이 새는 경우 (염소 주입라인 체크확인)-->즉시 수선 또는 교체한다. -염소주입탱크 이상 시 --> 즉시 어류본 탱크 가동하여 염소 주입 이상 없게 한 후 수리한다. 2.CP정상 복귀 : 작업 전 염소 농도 20~50ppm을 확인한다. 3. 영향받은 제품의 처리 : 제품 투입 전으로 영향받은 제품 발생하지 않음. 4.저발방지대책 : -작업 전 염소 농도가 적정 범위에 도달하였을 때 작업을 진행한다. -종업원교육을 시킨다.	1. 직접적인 관찰 모니 터링,개선조치등에 대한 직감관찰 (1회/주) 2. 기록물에 대한 검토 (1회/일)	정희봉	CP1일지

CP1일지

2. 3차 필터 작업 전 염소농도 관리 대장(2라인)

2018년 / 월 23일

번호: 2746호

No.	모니터링 일시	염소 농도	검사 결과	시 비	비 고
1	09:10	34.0	적합	20	
2	09:10	36.0	적합	20	
3	09:10	35.1	적합	20	
4-1			적 / 부		
5-2			적 / 부		
6-3			적 / 부		

■ 작업 전 염소 농도 모니터링 위치

이날 점검 시 기록 및 시범

1. 원인분석	직접적인 관찰
2. CP비 정상복귀	
3. 영향받은 제품의 처리	기록물에 대한 검토 -경험적 염소농도 1/3 이상으로 정희봉
4. 저발 방지 대책	

유 개사자 양주자장

* Refer to Appendix A. Reference 7 for the translation version of the above documents.

- Chlorine concentration was measured on the edge of the chilling tank, which is the part that has the lowest chlorine concentration, but it was changed to the area where chlorine is diluted and inserted (highest position), so that the chlorine with high concentration would not come in contact with the carcasses.

Reference 8

The Revised HACCP Plan

계획		작성		검토		승인		
0		0		-		-		
HACCP PLAN(CCP2)								
제조공정	CCP P 2	관리 항목	모니터링 한계기준 주기		개선조치	검출 방법	검출 책임자	기록
냉각공정	CCP 2	염소 투입 농도 (3차 필터)	20-50ppm		<p>모니터링 요원은 모니터링 위치에 이물질양을 기재하고 즉시 생산팀장 및 상부에 보고 한다.</p> <p>1. 용인분석: -염소파이프라인이 새는 경우 (염소 투입라인 재고확인)-->즉시 수선 또는 교체한다. -염소투입밸브 이상 시 --> 즉시 여유부 밸브 가동하여 염소 투입 이상 없게 한 후 수리한다.</p> <p>2. CCP로인 검사주기: 한계기준내로 염소 투입되어 염소농도가 유지되는지 확인한다.</p> <p>3. 영향받은 제품의 처리: -CCP2 결상 복귀 확인 후 CCP2 이탈된 동안 생산된 도체는 정상화된 물리수에 다시 투입하여 정상화 과정을 밟는다. -염소농도(50-100ppm) 초과된 물리수에서 생산된 도체는 염소투입밸브를 중지시킨 후 냉각수를 최대한 오버플로 시킬때 동시에 세척분무시설을 가동시켜서 세척 한 후 염수 관능검사하여 염소농도가 나는 도체는 폐기시키고 나머지는 재현수대에서 재현수한다. -염소농도(100ppm이상) 은 정량 폐기처리한다. -염소농도 이탈된 물리수에서 생산된 도체는 염소수 분무시설을 가동시켜서 염소소독을 강화시키는 조치를 취하고 #03필터수 염소농도가 허용범위로 떨어졌을 모니터링 한 후 염소수 분무시설을 멈춘다. (염소수 분무시설은 세척분무설비에 염소수를 만들어 가동하면 됨) 포장라인으로 넘어간 재품에 대해서는 냉장고 및 메이플러실에 임시보관 후 염소농도가 허용범위로 떨어졌을 확인 후 재현수 실시한다. -위 이물질양에 해당되는 도체 용 냉장 보관 중인 재품은 고자오염이 발생하지 않는 범위에서 해당 LOT의 포장지를 개방하여 10분간 휘발시키는 작업을 실시한 후 Q.A검사 후 출하를 실시한다.</p> <p>4. 재발방지대책: -한시적으로 염소측정주기를 강화하여 확인한다 -한시적으로 물비에 대한 염기주기를 강화하여 확인한다 -작업자에 대한 교육 실시한다</p>	<p>1. 모니터링활동에 대한 직권감찰 (주1회, 경영도속서)</p> <p>2. 기록 기재사항에 대한 확인 검토 (1회/일)</p> <p>3.검출/ 승식방법 (식품공전) 염소농도측정보정표 작성하여 시표제위량수에서 Q.A에서 2주에 1번씩 기기측정값에 대하여 승식 분석값으로 보정한다. 적정용액 (0.1N sodium thiosulfate)는 제조된 재품을 구입한다. Q.A에서 검교정에 대한 기록을 검토를 한다. 시료채취장소는 n.계측장비관리기준서, 염소측정보정표 양식에 표시 됨.</p>	CCP 2	품질경영실장
			3차 필터의 냉각수+염소수 투입구 지점에 40ml 알콜램프 에 시표용액 후 측 시 실험실에서 분석 확인					

CCP2 Revision History

34		<ul style="list-style-type: none"> ◦ 9월 19일 HACCP회의 결과 반영 ◦ 미국 FSIS 점검 지적 사항 개선 <ul style="list-style-type: none"> - 위해요소 목록 평가 변경 (예비냉각, 본냉각 소독제 추가 설정) - CP1(작업 전 염소 농도 측정) 추가 - HACCP PLAN CCP1 채취 장소 변경 	2017. 09. 20	재 정
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Meeting report of corrective actions on observations made by FSIS

HACCP 회의록 보고서		결	담	결	승	인
		재	경	-		
구 분	내 용					
회의일시	2017.09.19	회의장소	회의실	시간	13:00~14:00	
회의안건	미국 FSIS 점검 지적사항 개선 회의					
참 석 자	부 서	직 위	성 명	확 인	비 고	
	생산팀장	차장	윤영삼			
	품질보증실	대리	정현봉			
	생산팀	차장	이건철			
	물류팀장	과장	지명수			
	환경팀장	부장	양태영			
	공무원	사원	송우창			
회의내용	* 미국 FSIS 점검 지적사항에 대한 개선 대책 협의					
결정내용	1) 위해요소 평가표 재실시 : 예비냉각 염소 누락에 따른 재평가 실시 2) 작업 전 염소 농도 체크 : CP-1(작업 전 염소농도) 추가 설정 3) CCP-2 샘플 채취 장소 변경 : 기존 배출구 샘플 채취 -> 염소 투입 부분으로 샘플 위치 변경 4) 소독약품 보관소 위치 변경 : 변경 전 1층 계단아래 -> 변경 후 포장반 보관함 5) 현장 지적 사항 : 구멍 및 전선 노출 부분은 즉시 개선 진행 냉장 참고 문 파손부위는 10월 31일까지 부분 보수 진행					
특기사항	- 즉시 변경 진행					

Daily report of CCP2

CCP2 감시 기록지(2라인)					
2018년 1월 23일					
염소 농도 (한계기준: 염소농도 20-50 ppm, 감시주기: 1회/2시간)					
No.	감시시간	염소 농도	점검 결과	서 명	비고
1	09:10	29.0	합/부		
2	10:00	29.6	합/부		
3	10:00	30.5	합/부		
4	14:00	29.0	합/부		
5	16:00	28.0	합/부		
6	19:00	28.9	합/부		
7			적/부		
8			적/부		
9			적/부		
10			적/부		
11			적/부		
12			적/부		
13			적/부		
14			적/부		
15			적/부		
16			적/부		
여탈 발생시 기록 및 서명			감온 내역 기록 및 서명		
1. 원인분석			책임자인 관할		
2. CCP의 정상복귀					
3. 정상받은 제품의 처리			기록함에 대한 검토		
4. 해당 방지 대책			-역량평가 후사항 검토/시 20:00		

위 아니키 출주지점

* Refer to Appendix A. Reference 8 for the translation version of the above documents.

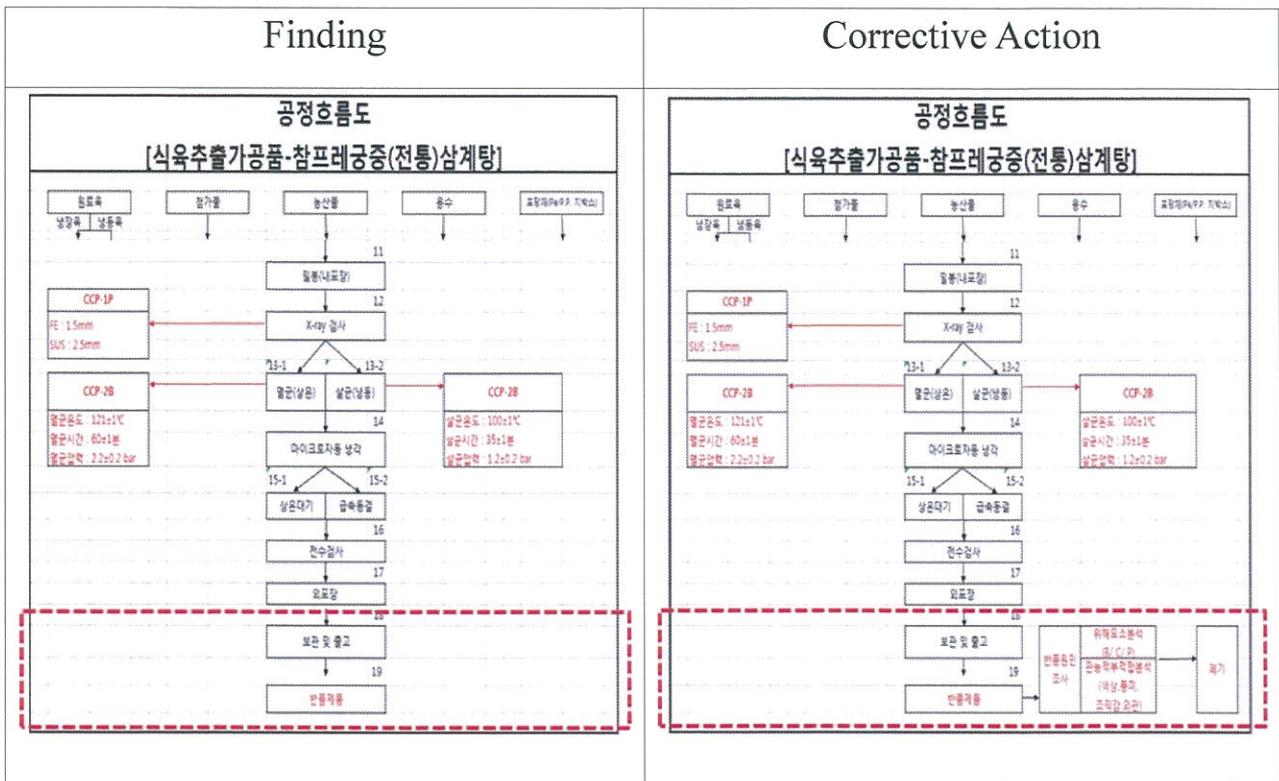
- Insects are found in the drug storage (insufficient insect control measures)
 - The drug storage was located in a humid warehouse below the stairs on the first floor, so it was vulnerable to insects and fungi. However, a new drug storage box was installed in the guard room on the second floor and transferred to a place that is safe from pests, etc.

Finding	Corrective Action
	

□ Charmfre (Processing Plant, GJA17002)

- The HACCP plan does not include matters about the returned products in the process flowchart or the risk analysis.
 - Re-established the HACCP plan by reflecting the causal analysis and handling for returned product in the process flow chart and hazard analysis (B, C, P).
 - When there are returned products, hazard analysis (B, C, P) and sensory test for the returned product are carried out to investigate the cause, establish measures to prevent recurrence, and dispose of all relevant products.

Reference 9



위해요소 분석표(공정)								
NO.	제조공정	위해요소 (Hazard)		위해 평가			예방조치 및 관리방법	
		구분	위해종류	발생현인 (유연)	심각성	발생가능성		결과
12	X-RAY 검출	P	금속/이물질	X-RAY검출기 작동 및 감도불량으로 인한 혼입	높음 (3)	낮음 (1)	Hazard (3)	X-RAY 작동상태 확인 X-RAY 감도 검증
13-1	절단	B	세균	포장지 불량 및 용접으로 인한 미생물증식 (살균온도 및 시간 미 준수로 인한 잔존 미생물 증식)	높음 (3)	낮음 (1)	Hazard (3)	멸(살)균온도, 시간, 압력 준수 정기적인 F&Q 검증 자동기록지 확인
13-2	살균	B	대장균군	포장지 불량 및 용접으로 인한 미생물증식 살균온도 및 시간 미준수로 인한 잔존 미생물 증식	보통 (2)	낮음 (1)	NO Hazard (2)	살균온도, 시간, 압력 준수 정기적인 F&Q 검증 자동기록지 확인
			Salmonella spp	포장지 불량 및 용접으로 인한 미생물증식 살균온도 및 시간 미준수로 인한 잔존 미생물 증식	보통 (2)	낮음 (1)	NO Hazard (2)	
14	미이크로 자동생각	B	세균	포장지 불량 및 용접으로 인한 미생물증식 대기시간 미준수로 인한 잔존 미생물 증식	높음 (3)	낮음 (1)	Hazard (3)	멸(살)균 온도, 시간, 압력 정기적인 F&Q 검증 자동기록지 확인
15-1	살균대기	B	세균	포장지 불량 및 용접으로 인한 미생물증식 대기시간 미준수로 인한 잔존 미생물 증식	높음 (3)	낮음 (1)	Hazard (3)	대기시간 모니터링 기록 대기시간 준수
15-2	냉동대기	B	세균	포장지 불량 및 용접으로 인한 미생물증식 대기시간 미준수로 인한 잔존 미생물 증식	높음 (3)	낮음 (1)	Hazard (3)	대기시간 모니터링 기록 대기시간 준수
16	전수검사	B	세균	비정상 증진 및 충격발생으로 미생물증식 (살균온도 및 시간 미 준수로 인한 잔존 미생물 증식)	높음 (3)	낮음 (1)	Hazard (3)	충격 발생처를 점검/재검 신발
17-18	외포장/ 포장	P	먼지/이물질	취급 부주의로 포장 훼손 시 오염 가능	낮음 (1)	낮음 (1)	NO Hazard (1)	작업자 운송보관기준 준수/교육

위해요소 분석표(공정)								
NO.	제조공정	위해요소 (Hazard)		위해 평가			예방조치 및 관리방법	
		구분	위해종류	발생현인 (유연)	심각성	발생가능성		결과
12	X-RAY 검출	P	금속/이물질	X-RAY검출기 작동 및 감도불량으로 인한 혼입	높음 (3)	낮음 (1)	Hazard (3)	X-RAY 작동상태 확인 X-RAY 감도 검증
13-1	절단	B	세균	포장지 불량 및 용접으로 인한 미생물증식 (살균온도 및 시간 미 준수로 인한 잔존 미생물 증식)	높음 (3)	낮음 (1)	Hazard (3)	멸(살)균온도, 시간, 압력 준수 정기적인 F&Q 검증 자동기록지 확인
13-2	살균	B	대장균군 Salmonella spp	포장지 불량 및 용접으로 인한 미생물증식 살균온도 및 시간 미준수로 인한 잔존 미생물 증식	보통 (2)	낮음 (1)	NO Hazard (2)	살균온도, 시간, 압력 준수 정기적인 F&Q 검증 자동기록지 확인
14	미이크로 자동생각	B	세균	포장지 불량 및 용접으로 인한 미생물증식 대기시간 미준수로 인한 잔존 미생물 증식	높음 (3)	낮음 (1)	Hazard (3)	멸(살)균 온도, 시간, 압력 정기적인 F&Q 검증 자동기록지 확인
15-1	살균대기	B	세균	포장지 불량 및 용접으로 인한 미생물증식 대기시간 미준수로 인한 잔존 미생물 증식	높음 (3)	낮음 (1)	Hazard (3)	대기시간 모니터링 기록 대기시간 준수
15-2	냉동대기	B	세균	비정상 증진 및 충격발생으로 미생물증식 (살균온도 및 시간 미 준수로 인한 잔존 미생물 증식)	높음 (3)	낮음 (1)	Hazard (3)	충격 발생처를 점검/재검 신발
17-18	외포장/ 포장	P	먼지/이물질	취급 부주의로 포장 훼손 시 오염 가능	낮음 (1)	낮음 (1)	NO Hazard (1)	작업자 운송보관기준 준수/교육
19	반출	B	세균	포장지 불량 및 용접으로 인한 미생물증식 대기시간 미준수로 인한 잔존 미생물 증식	높음 (3)	낮음 (1)	NO Hazard (3)	포장방법 및 온도 기준 준수 포장 전 불량률 검열 제거
		C	다크로크스	잔여물 제거 부주의로 재포함가능 오염	낮음 (1)	낮음 (1)	NO Hazard (1)	정기적 검사(포도)
		P	이물질	취급 부주의로 포장 훼손 시 오염 가능	낮음 (1)	낮음 (1)	NO Hazard (1)	작업자 운송보관기준 준수/교육
관리	역상, 온도, 수직상, 위생	공정기준 미준수로 인한 발생가능	낮음 (1)	낮음 (1)	NO Hazard (1)	관리자가 모니터링 실시		

* Refer to Appendix A. Reference 9 for the translation version of the above documents.

○ HACCP plan does not include a pre-shipment review.

- For finished products before shipment, only the quantity and the expiration date were checked as inspection items. However, in the pre-requisite program, the pre-shipment inspection for the exported product is carried out by adding procedures for checking the actual product (quantity, sealing status, slaughter date, processing date, expiration date, and shipment date) and conducting a document review (verification of the process control log, verification of the CCP log, details of the lab test record, details of the corrective action).

Reference 10

Finding	Corrective Action
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공정관리 체크리스트 (참프레중심계량)				작성	검도1	검도2	승인
담당부서: 품질경영실				검증일자: 20년 월 일 ()		검증자:	
공정명	관리항목	관리기준	계통형		정규분포형		비고
			시간	1	시간	1	
내보장	표의해제도	가열온도	85~90℃	정합 <input type="checkbox"/> 부적합 <input type="checkbox"/>	정합 <input type="checkbox"/> 부적합 <input type="checkbox"/>		
		가열시간	5분→표의제동일→30분	정합 <input type="checkbox"/> 부적합 <input type="checkbox"/>	정합 <input type="checkbox"/> 부적합 <input type="checkbox"/>		
		표의제 온도	0.6±0.1%	%	%		
제조공정	불균열공	온도	121±1℃	CCP-2B			
		압력	2.2±0.2 bar				
		시간	60±1분				
		냉각	25±5분			정합 <input type="checkbox"/> 부적합 <input type="checkbox"/>	정합 <input type="checkbox"/> 부적합 <input type="checkbox"/>
외포장	외포장(박스포장)	압수량	800g/10부	정합 <input type="checkbox"/> 부적합 <input type="checkbox"/>	정합 <input type="checkbox"/> 부적합 <input type="checkbox"/>		
		유통기한	내 표장지 일치여부	년 월 일	년 월 일	유통기한: 18개월	
공통성	부품	복합온도	-2~10℃	℃	℃		
발생시점	관리기준 이탈사항		개선조치 및 결과			확인	

문서번호: CFH-FPP-10-08

	실행요건프로그램 (PR: Pre-requisite Programme)		문서번호	CFH-FPP-10-
			검사관리기준서	개정 일자
			개정번호	2017.10.10
			페이지	18/
				10 / 25

3.3.3 유통기한 전 제품명, 제품의 상태, 표기사항, 포장상태, 유통기한 표기 여부 등을 검사한 후 공 정 체크리스트 일지에 기록한다.

3.6.4 **품질관리팀** 담당자는 수출용 제품의 경우 수출업체용(출고 전) **질량표**를 이용하여 제품 이상 여부를 검사한다.

구분	담당	확인	확인 일자
외관검사	✓	외관확인	년 월 일
보관상태	✓	보관확인	
수출차	✓	수출확인	

구분: 재검 필요 재검 불필요

수입(출입): Box / Bag

소분상태: 역합 비역합

도출일자: 년 월 일

가공(제정)일자: 년 월 일

유통기한: 년 월 일

출고 일자: 년 월 일

공정관리일자 기록확인: 역합 비역합

CCP일지 확인: 역합 비역합

품질 검사서명: 역합 비역합

개선조치 기록: 역합 비역합

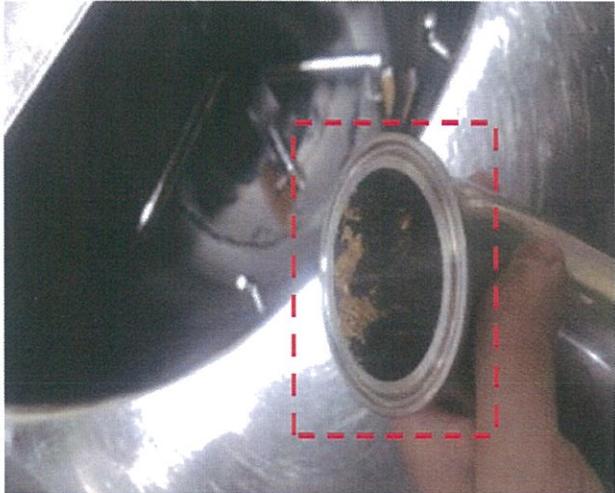
품질담당: 역합 비역합

CFH-FPP-10-18(017.10.10)

* Refer to Appendix A. Reference 10 for the translation version of the above documents.

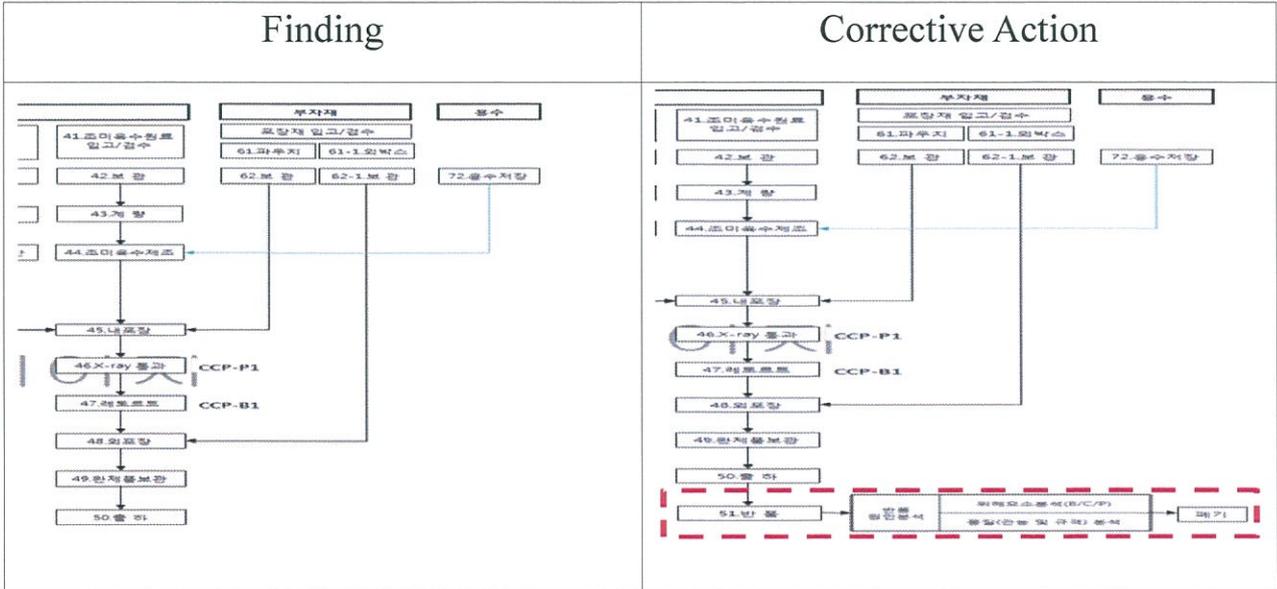
□ **Ourhome** (Processing Plant, PSA17001)

- Failure to comply with the SSOP requirement has been identified in the sanitation inspection before work. Found that the residue from the previous day's work has accumulated in the pipe that transports the broiler broth to the tank.
- Performed cleaning and disinfection of manufacturing facilities and equipment after production is completed, and carried out a training for employees (performed record management after inspecting manufacturing facilities and equipment)
-

Finding	Corrective action
	

- The HACCP plan does not include matters about the returned products in the process flowchart or the hazard analysis.
- Re-established the HACCP plan by reflecting the causal analysis and handling for returned product in the process flow chart and hazard analysis (B, C, P).
- When there are returned products, hazard analysis (B, C, P) and sensory test for the returned products are carried out to investigate the cause, establish measures to prevent recurrence, and dispose of all relevant products.

Reference 11



Finding		Corrective Action							
NO	구분	위험요소	발생원인(유형)	위험평가	제정조치 및 관리방법				
49	원재료 B	일반세균	* 작업자 부주의로 인한 파우치 파손 및 교차오염	보통	발생가능성 높음/중간	* 작업자 직무교육 및 위생교육 * 부적합품(파손) 폐기			
		대장균군 <i>Escherichia coli</i>		낮음	거의없음		단속		
		<i>Staphylococcus aureus</i>		보통	거의없음		단속		
		C		N/A	-		-	-	
		D		플라스틱	보통		거의없음	단속	* 작업자 직무교육 및 위생교육 * 부적합품(파손) 폐기
				고무	보통		거의없음	단속	
	종이		보통	거의없음	단속				
	50	원재료 B	일반세균	* 작업자 부주의로 인한 파우치 파손 및 교차오염	보통	발생가능성 높음/중간	* 작업자 직무교육 및 위생교육 * 부적합품(파손) 폐기		
			대장균군 <i>Escherichia coli</i>		낮음	거의없음		단속	
			<i>Staphylococcus aureus</i>		보통	거의없음		단속	
		D	플라스틱	보통	거의없음	단속	* 작업자 직무교육 및 위생교육 * 부적합품(파손) 폐기		
			고무	보통	거의없음	단속			
종이			보통	거의없음	단속				

* Refer to Appendix A. Reference 11 for the translation version of the above documents.

- The HACCP plan doesn't include a pre-shipment review.

- Changed the safety control standard document so that export products are verified by the exporting company's employee prior to the shipment. And the verifier examines the receipt inspection log, each process log, finished product inspection report, test report, sanitary checklist, etc. according to the verification procedure before review and approval.

Reference 12

Corrective Action

7. 수출제품 출하 전 검열.

7.1 업무절차.

- (1) 검열관리담당은 미국수출심계장 출하 전 재검에 대하여 [수출제품 출하 전 검열검점표]에 따라 기록용, 실적서를 통하여 해당 제품의 공정, 완성, 재검에 대하여 최종검사를 실시하고, 제품의 적합여부 판정 및 그 결과를 [수출제품 출하 전 검열검점표]에 기록·유지한다.
- (2) 이상발생 시 또는 필요하다고 판단되는 경우 시도를 재확인하여 분석담당자에게 시정요구를 의뢰할 수 있다.
- (3) 재검 출하 전 확인 결과 적합 시 검열담당자는 생산부서에 결과를 공유하여 재검이 불합격 수 있도록 하고, 부적합사항 발생 시 [부적합관리지침]에 따라 폐기 또는 통제 처리한다.

구분	원인	발생	개선	부채	평가
원료 입고	원료 구매 계약 여부 확인		입고검사일지, 원료입사확인서		
상계 재료			상계재료일지		
상계 포장			상계포장일지		
상계 세척			상계세척일지		
상계 건조			상계건조일지		
상계 포장			상계포장일지		
상계 냉각			상계냉각일지		
부원료 선별	품질기준 충족 여부 확인		선별과정확인일지		
부원료 선별/포장	0.1mm상과 세로로포장기준		가공과정확인일지		
부원료 포장/포장	간격기준 준수 여부 확인		가공과정확인일지		
계량			계량과정확인일지		
프라이징 과정			프라이징과정확인일지		
내포장			내포장과정확인일지		
K-ray 검사			CCP-81 검사일지, CCP-81 검사일지, (제조기준서 참조)		
최종포장			최종포장확인일지		
입하장					
역행 확인	리턴차, 리턴장 식별상태 및 식별용 용도기용, 용수 여부 확인	이물제품 생산여부 확인, 미검출, 미지 및 기록물여부 대한 검토	가공과정확인일지, 계량과정확인일지, 내포장과정확인일지, CCP-81 검사일지, CCP-81 검사일지, (제조기준서 참조)	입하장 확인일지	검출, 불합, 미검
제품회전	항재용 구멍, 용수 여부 확인		항재용구멍, 검사일지		

수출제품 출하 전 검열 검점표				작성	검표	확인
O 원료 일자: 201 년 월 일						
1. 공정 확인						
구분	작성일자	검정일자	비고			
입고	입고검사일지	원/부				
상계 재료	상계 재료일지	원/부				
상계 포장	상계 포장일지	원/부				
상계 세척	상계 세척일지	원/부				
상계 건조	상계 건조일지	원/부				
상계 포장	상계 포장일지	원/부				
상계 냉각	상계 냉각일지	원/부				
부원료 선별	부원료 선별확인일지	원/부				
부원료 선별/포장	부원료 선별/포장확인일지	원/부				
계량	계량과정확인일지	원/부				
프라이징 과정	프라이징과정확인일지	원/부				
내포장	내포장과정확인일지	원/부				
X-ray 검사	CCP-81 검사일지(사) 검사일지	원/부				
최종포장	CCP-81 검사일지(제조기준서 참조)	원/부				
입하장	입하장확인일지	원/부				
2. 최종 확인						
구분	작성일자	검정일자	비고			
역행 확인	역행확인일지	원/부				
제품회전	제품회전확인일지	원/부				
입하장	입하장확인일지	원/부				
최종포장	최종포장확인일지	원/부				
입하장	입하장확인일지	원/부				
3. 제품 확인						
구분	작성일자	검정일자	비고			
역행 확인	역행확인일지	원/부				
제품회전	제품회전확인일지	원/부				
입하장	입하장확인일지	원/부				
최종포장	최종포장확인일지	원/부				
4. 이상발생내역						
발생일자	발생장소	이상발생내역	표지내역 및 결과	조사담당자	확인	

* Refer to Appendix A. Reference 12 for the translation version of the above documents.

- Hazard analysis does not address all potential biological, chemical, and physical food safety hazards.
- For raw materials, secondary materials, and production processes, identified hazards (B, C, P) and the causes of their occurrence and established preventive measures and control methods to supplement the hazard analysis.

Reference 13

Finding

Corrective Action

NO	구분	위해요소	발생원인(유래)	위해평가		해방조치 및 관리방법	
				심각성	발생가능성		
1 11 21 31 41 51 61 71 81 91 101 111 121 131 141 151 161 171 181 191 201 211 221 231 241 251 261 271 281 291 301 311 321 331 341 351 361 371 381 391 401 411 421 431 441 451 461 471 481 491 501 511 521 531 541 551 561 571 581 591 601 611 621 631 641 651 661 671 681 691 701 711 721 731 741 751 761 771 781 791 801 811 821 831 841 851 861 871 881 891 901 911 921 931 941 951 961 971 981 991 1001 1011 1021 1031 1041 1051 1061 1071 1081 1091 1101 1111 1121 1131 1141 1151 1161 1171 1181 1191 1201 1211 1221 1231 1241 1251 1261 1271 1281 1291 1301 1311 1321 1331 1341 1351 1361 1371 1381 1391 1401 1411 1421 1431 1441 1451 1461 1471 1481 1491 1501 1511 1521 1531 1541 1551 1561 1571 1581 1591 1601 1611 1621 1631 1641 1651 1661 1671 1681 1691 1701 1711 1721 1731 1741 1751 1761 1771 1781 1791 1801 1811 1821 1831 1841 1851 1861 1871 1881 1891 1901 1911 1921 1931 1941 1951 1961 1971 1981 1991 2001	B	일반세균	농용자갈, 운반도구, 파이프, 세척수, 관의 누출	낮음	거의없음	관측	
		대장균군	농용자갈, 운반도구, 파이프, 세척수, 관의 누출	낮음	거의없음	관측	
		<i>Clostridium perfringens</i>	* 농용자갈, 운반도구, 파이프, 세척수, 관의 누출	낮음	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		<i>Escherichia coli</i>	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		장염균상 대장균	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	높음	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		<i>Listeria monocytogenes</i>	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	높음	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		<i>Salmonella</i> spp	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		<i>Staphylococcus aureus</i>	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		황색포도상구균	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		대장균	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		대장균상 대장균	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출

NO	구분	위해요소	발생원인(유래)	위해평가		해방조치 및 관리방법	
				심각성	발생가능성		
1 11 21 31 41 51 61 71 81 91 101 111 121 131 141 151 161 171 181 191 201 211 221 231 241 251 261 271 281 291 301 311 321 331 341 351 361 371 381 391 401 411 421 431 441 451 461 471 481 491 501 511 521 531 541 551 561 571 581 591 601 611 621 631 641 651 661 671 681 691 701 711 721 731 741 751 761 771 781 791 801 811 821 831 841 851 861 871 881 891 901 911 921 931 941 951 961 971 981 991 1001	C	일반세균	농용자갈, 운반도구, 파이프, 세척수, 관의 누출	낮음	거의없음	관측	
		대장균군	농용자갈, 운반도구, 파이프, 세척수, 관의 누출	낮음	거의없음	관측	
		<i>Clostridium perfringens</i>	* 농용자갈, 운반도구, 파이프, 세척수, 관의 누출	낮음	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		<i>Escherichia coli</i>	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		장염균상 대장균	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	높음	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		<i>Listeria monocytogenes</i>	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	높음	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		<i>Salmonella</i> spp	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		<i>Staphylococcus aureus</i>	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		황색포도상구균	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		대장균	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출
		대장균상 대장균	* 운송차량, 운반도구, 파이프, 세척수, 관의 누출	보통	거의없음	관측	농용자갈, 운반도구, 파이프, 세척수, 관의 누출

* Refer to Appendix A. Reference 13 for the translation version of the above documents.

- Small holes in the ceiling in the production area, gaps between the ceiling and the pipe are above the exposed products.
 - Holes in the ceiling inside the production area, gap between the ceiling and pipe, and piping gap are sealed.

Finding

Corrective Action



□ Harim (Processing Plant, GJA14001)

- Hazard analysis does not address all potential biological (B), chemical (C), and physical (P) food safety hazards.
 - For raw materials, secondary materials, and production processes, identified hazards (B, C, P) and the causes of their occurrence and established preventive measures and control methods to supplement the hazard analysis.

Reference 14

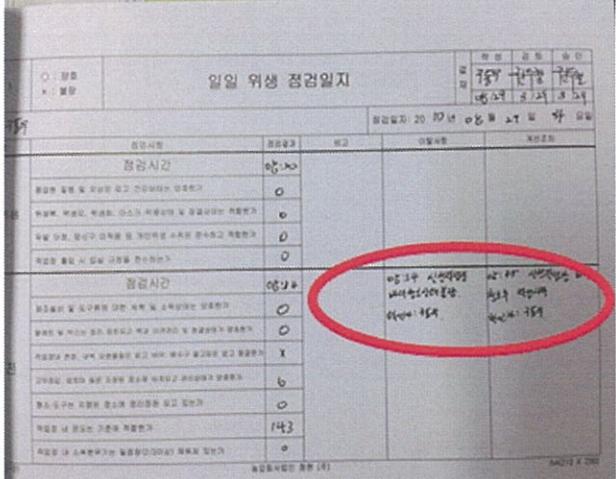
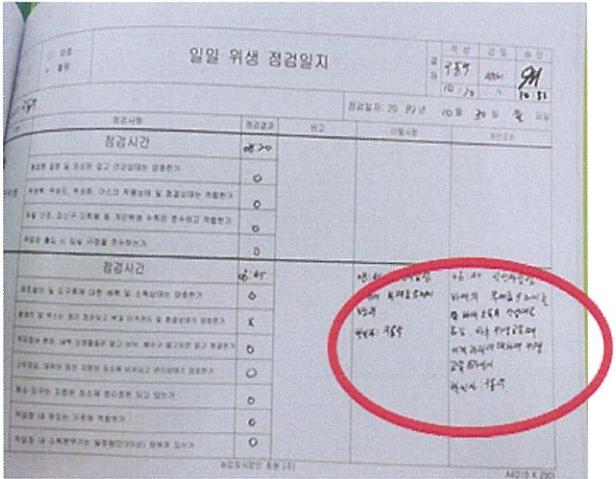
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* Refer to Appendix A. Reference 14 for the translation version of the above documents.

□ **Cheong Hyeon (Processing Plant, GJA17001)**

- No preventive measures are included in the record of improvement measures for sanitation required by the sanitation plan.
 - Promotes an effective recurrence prevention through training of employees to ensure that the same problem does not occur after the corrective action is made for nonconformance with the sanitation control standards.

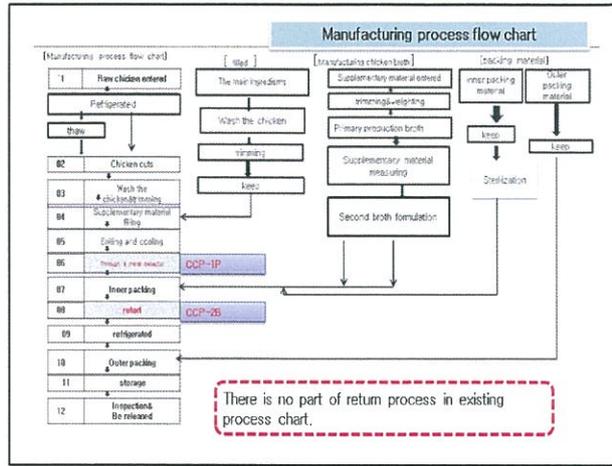
Reference 15

Finding	Corrective Action
	

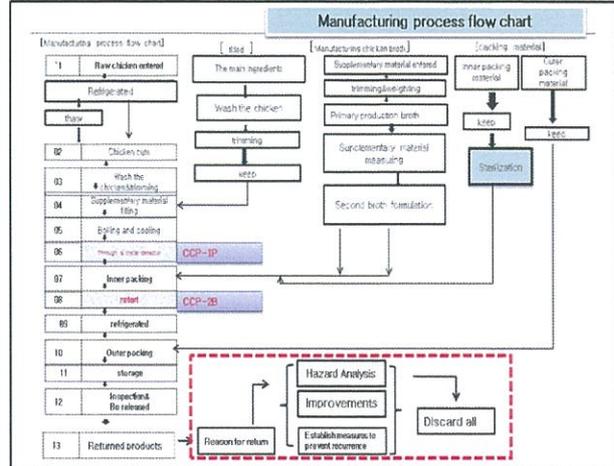
* Refer to Appendix A. Reference 15 for the translation version of the above documents.

- The HACCP plan does not include matters about the returned products in the process flowchart or the hazard analysis.
 - Re-establish the HACCP plan by reflecting the causal analysis and handling for returned product in the process flow chart and hazard analysis (B, C, P).
 - When there are returned products, hazard analysis (B, C, P) and sensory test for the returned products are carried out to investigate the cause, establish measures to prevent recurrence, and dispose of all relevant products.

Finding



Corrective Action



Finding

Control type	Process	Hazard category	Hazard	Exposure route	Prevention and control measures	Risk assessment
70-10	Outer packing	B	Salmonella, coliform, general bacteria, Clostridium botulinum	- Proliferation of microorganisms due to the damaged package e.g. a stitch by worker	- Worker training on product handling (attach and seal) - Check in inspection process	low Medium M
		C	Residue (neutral detergent)	- cross-contamination by improper cleaning of tools - Foreign objects getting inside through the opening of damaged package due to mishandling or low packaging	- Maintain daily cleaning & sanitation log - Check pouch damage in line packaging - Check product defect by inspection according to company quality control policy	low Medium M
		P	Damaged package	- Product transported by staff by and follow the FIFO/first-in first-out principle - Worker training	- Conduct test for microorganisms in finished goods (once a month/year result report)	low Medium M
70-11	Storage	B	Salmonella, coliform, general bacteria, Clostridium botulinum	- Proliferation of microorganisms after passing shelf life	- Worker training on product handling (attach and seal) - Check in inspection process	low Medium M
		C	Residue (neutral detergent)	- Cross-contamination by improper cleaning of tools - Foreign objects getting inside through the opening of damaged package due to mishandling during storage	- Maintain daily cleaning & sanitation log - Check any abnormality during storage (i.e. leaking packets) - Check product defect by inspection according to company quality control policy	low Medium M
		P	Damaged pouch	- Product transported by staff by and follow the FIFO/first-in first-out principle - Worker training	- Conduct test for microorganisms in finished goods (once a month/year result report)	low Medium M
70-12	Inspection and shipping	B	Salmonella, coliform, general bacteria, Clostridium botulinum	- Proliferation of microorganisms after passing shelf life - Proliferation of microorganisms from the damaged package during transportation	- Worker training on product handling (attach and seal) - Check in inspection process	low Medium M
		C	Residue (neutral detergent)	- Cross-contamination by improper cleaning of tools - Foreign objects getting inside through the opening of damaged package from mishandling during storage and shipping	- Maintain daily cleaning & sanitation log - Check any abnormality during storage (i.e. leaking packets) - Check product defect by inspection according to company quality control policy	low Medium M
		P	Damaged pouch	- Product transported by staff by and follow the FIFO/first-in first-out principle - Worker training	- Conduct test for microorganisms in finished goods (once a month/year result report)	low Medium M

Corrective Action

Control type	Process	Hazard category	Hazard	Exposure route	Prevention and control measures	Risk assessment
70-10	Outer packing	B	Salmonella, coliform, general bacteria, Clostridium botulinum	- Proliferation of microorganisms due to the damaged package e.g. a stitch by worker	- Worker training on product handling (attach and seal) - Check in inspection process	low Medium M
		C	Residue (neutral detergent)	- cross-contamination by improper cleaning of tools - Foreign objects getting inside through the opening of damaged package due to mishandling or low packaging	- Maintain daily cleaning & sanitation log - Check pouch damage in line packaging - Check product defect by inspection according to company quality control policy	low Medium M
		P	Damaged package	- Product transported by staff by and follow the FIFO/first-in first-out principle - Worker training	- Conduct test for microorganisms in finished goods (once a month/year result report)	low Medium M
70-11	Storage	B	Salmonella, coliform, general bacteria, Clostridium botulinum	- Proliferation of microorganisms after passing shelf life	- Worker training on product handling (attach and seal) - Check in inspection process	low Medium M
		C	Residue (neutral detergent)	- Cross-contamination by improper cleaning of tools - Foreign objects getting inside through the opening of damaged package due to mishandling during storage	- Maintain daily cleaning & sanitation log - Check any abnormality during storage (i.e. leaking packets) - Check product defect by inspection according to company quality control policy	low Medium M
		P	Damaged pouch	- Product transported by staff by and follow the FIFO/first-in first-out principle - Worker training	- Conduct test for microorganisms in finished goods (once a month/year result report)	low Medium M
70-12	Inspection and shipping	B	Salmonella, coliform, general bacteria, Clostridium botulinum	- Proliferation of microorganisms after passing shelf life - Proliferation of microorganisms from the damaged package during transportation	- Worker training on product handling (attach and seal) - Check in inspection process	low Medium M
		C	Residue (neutral detergent)	- Cross-contamination by improper cleaning of tools - Foreign objects getting inside through the opening of damaged package from mishandling during storage and shipping	- Maintain daily cleaning & sanitation log - Check any abnormality during storage (i.e. leaking packets) - Check product defect by inspection according to company quality control policy	low Medium M
		P	Damaged pouch	- Product transported by staff by and follow the FIFO/first-in first-out principle - Worker training	- Conduct test for microorganisms in finished goods (once a month/year result report)	low Medium M

○ Hazard analysis does not address all potential biological, chemical, and physical food safety hazards.

- For raw materials, secondary materials, and production processes, identified hazards (B, C, P) and the causes of their occurrence and established preventive measures and control methods to

Reference 16

Finding	Corrective Action

* Refer to Appendix A. Reference 16 for the translation version of the above documents.

- Verification of retort devices is also improved by reflecting the finding.

Reference 17

Finding	Corrective Action
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레토르트 관리일지 COP-28

작업 일자 29.1 국명 한국 COP-28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100

제조업체 한국 레토르트 관리일지 COP-28

제조일자 29.1 국명 한국 COP-28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100

제조일자 29.1 국명 한국 COP-28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100

구분	구분								
구분	구분								
29.1	50	29.1	50	29.1	50	29.1	50	29.1	50
29.2	50	29.2	50	29.2	50	29.2	50	29.2	50
29.3	50	29.3	50	29.3	50	29.3	50	29.3	50

레토르트 관리일지 COP-28

작업 일자 29.1 국명 한국 COP-28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100

제조업체 한국 레토르트 관리일지 COP-28

제조일자 29.1 국명 한국 COP-28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100

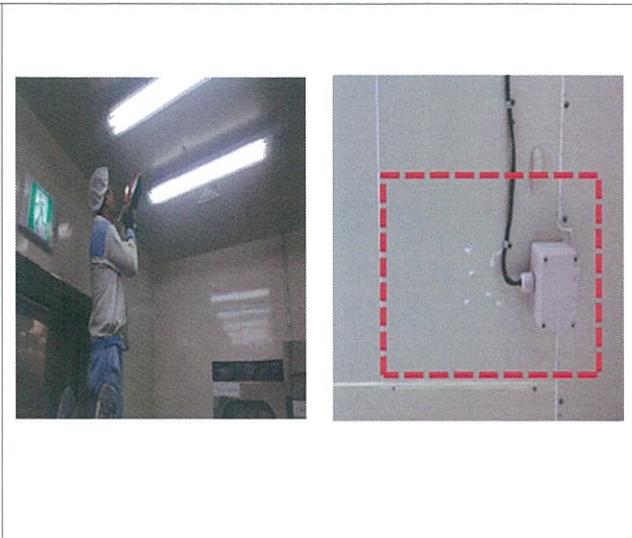
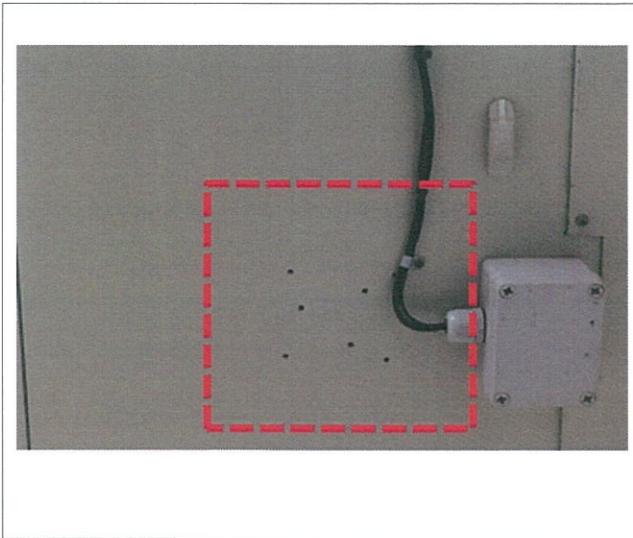
제조일자 29.1 국명 한국 COP-28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100

구분	구분								
구분	구분								
29.1	50	29.1	50	29.1	50	29.1	50	29.1	50
29.2	50	29.2	50	29.2	50	29.2	50	29.2	50
29.3	50	29.3	50	29.3	50	29.3	50	29.3	50

* Refer to Appendix A. Reference 17 for the translation version of the above documents.

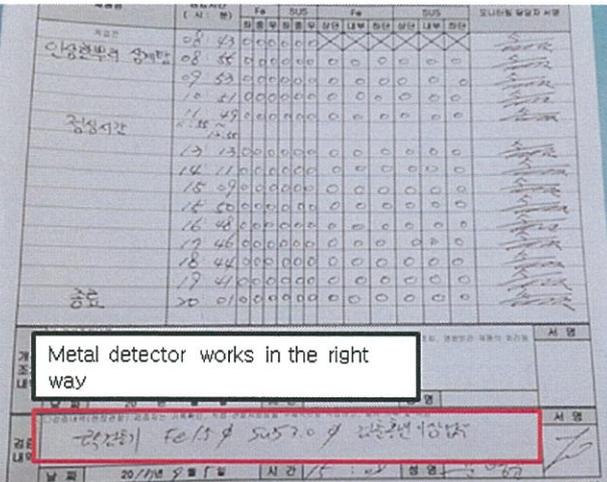
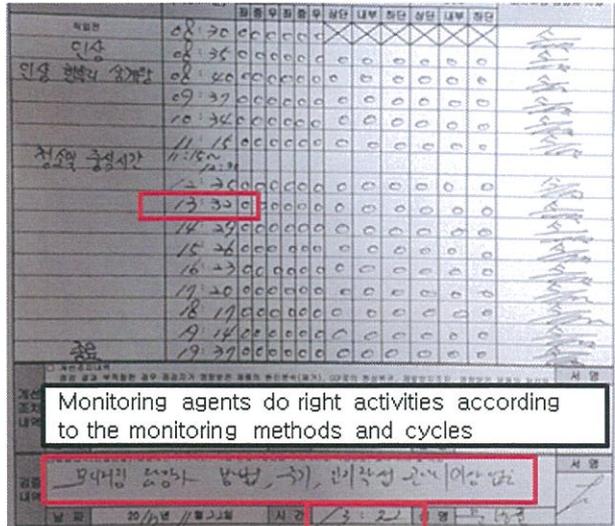
- Small holes in the ceiling in the production area and the gaps between the ceiling and the pipe are above the exposed product
 - The gap between the hole in the ceiling and pipe was finished with water-resistant materials.
 -

Finding	Corrective Action
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□ **Maniker F&G (Processing Plant, GIA15001)**

- Verification activities (direct observation of CCP monitoring) were conducted with a lower frequency than what is specified in the written HACCP plan.
 - According to the HACCP plan, the inspector should observe and record the monitoring activities of the monitoring personnel, not the verification that confirms the results of the monitoring.

Finding	Corrective Action
 <p>Metal detector works in the right way</p>	 <p>Monitoring agents do right activities according to the monitoring methods and cycles</p>

Appendix A. The Translated Documents for Findings and Corrective Actions

Reference 1.

- Finding

1. Date of Experiment	9/5~9/6/2017	2. Tester	Kim, Gyeong-Su	Kim, Myeong-Gon <Signature>
3. Sample	1 case, Korea Federation of Livestock Cooperatives requested on 9/4			
4. Testing Item	Rapid testing for residues			
5. Test Method	Manual for the analysis of harmful substances in livestock and fishery products (EEC 4 – plate, E.coli plate test)			
6. Test result	Please refer to the detail.			

7. Detailed test procedures

<Major test/inspection equipment>

No.	Name of Equipment	Manufacturer & Model Name	Equipment Control No.	Note
1	Freezer	Ilsin Lab, DF8527, 484L, -86°C	Residue-1	
2	General gravity convection incubator	Eyela, JP/LT1-601SD	Residue-2	
3	Constant-temperature water tank	Daihan Scientific, WB-11, 11L	Residue-4	

<Major reagents>

No.	Product Name	Manufacturer	Specification	Expiration Date	Note
1	Test agar pH 6.0	Merck	1.10663	01/22/2019	
2	Test agar pH 8.0	Merck	1.10664	01/12/2022	
3	Muller-Hinton agar pH 7.2	Merck	1.05437	10/10/2017	
4	Nutrient agar	Merck	1.05450	10/11/2021	
5	NaCl	Merck	1.06404		
6	BBL™ Trypticase™ soy broth (Soybean-Casein Digest Medium)	BD	211768	12/31/2019	

<Test strains>

No.	Name of the Strain	Manufacturer	Specification	Expiration Date	Note
1	Bacillus subtilis	Merck	1.10649	08/05/2017	
2	Escherichia coli	KCCM	ATCC 11303	-	
3	Kocuria rhizophila	Oxoid	ATCC 9341	10/17/2017	

- Corrective Action

1. Date of Experiment	10/19/2017	2. Tester	Kim, Gyeong-Su	Kim, Myeong-Gon <Signature>
3. Sample	2 cases, JM Food requested on 10/12			
4. Testing Item	Advanced quantitative test of propionic acid			
5. Test Method	Test methods for propionic acid using the manual for ingredient composition test method for livestock products 2.3GC.			
6. Test result	Please refer to the detail.			

7. Detailed test procedures

<Test samples>

No.	Sample No.	Sample Name	Weight(g)	Note
1	171012-2-05-04-0106	Black pork seasoned bulgogi	10.022	
2	171012-2-05-05-0106	Black pork red bean paste bulgogi	10.060	

10/20/17 Kim

<Major test/inspection equipment>

No.	Name of Equipment	Manufacturer & Model Name	Equipment Control No.	Note
1	Distillation unit	8100 kjetec Distillation Unit	Livestock Products Analysis Room-10	
2	Concentrator dryer	Caliper Life Sciences, US/TurboVap11	Livestock Products Analysis Room-4	
3	Gas chromatograph	Bruker GC/Bruker 456-GC	Precision Equipment-2	
4	Centrifuge	Hanil Scientific Inc., MF-80	Preprocessing-2	
5	Nitrogen generator	Parker Hannifin, US/NitroVap-2LV	Livestock Products Analysis Room-2	

<Major reagents and devices>

No.	Product Name	Manufacturer	Specification	Expiration Date	Note
1	NaCl	Merck 1.06404, GR grade	1 kg/container	-	
2	Phosphoric acid	Merck 1.00565	500 g/container	-	
3	NaOH	Yakuri 31511	1 kg/container	-	
4	Dowex 50*8	Sigma-aldrich, 217506	500 g/container	-	
5	NaCl	Merck 1.06404, GR grade	1 kg/container	-	
6	Diethyl Ether	junsei, GR grade	1 L/bottle	-	
7	Pipette	GILSON	1 mL		
8	Conical tube 50mL	greiner bio-one, E120903S	20 ea/pak	-	
9	Conical tube 15mL	greiner bio-one, E1405147	100 ea/pak	-	
10	Vial for GC	Water, 12*32mm, 186000385C	100/pk	-	

Reference 2.

- Finding

Laboratory Testing Diary			
Date	8/19/17	Tester	
Sample	8 cases, Pesticides for edible eggs requested on 8/15~16		
Test item	Advanced quantitative test for pesticides		
Test method	Testing for pesticide multi-residues (27 types) including Abamectin		
Result	Not detected		
- Test procedures			
No.	Name of the Farm (Owner of the Farm)	Note	
2017-1	Handong (Kim, Sang-Gyu)		
2017-2	Seorim (Kim, Dong-Hyeon)		
2017-3	Hanlim (Kang, Sun-Ja)		
2017-4	Gwangmyeong (Ko, Young-Myeong)		
2017-5	Baekdam (Kim, Sun-Young)		
2017-6	- (Ko, Yun-Chil)		
2017-7	- (Jeong, Dong-Gi)		
2017-8	- (Cheon, Gwon-Seok)		
<Major test/inspection equipment>			
No.	Name of Equipment	Manufacturer & Model Name	Equipment Control No.
1	Mass Analyzer	Absiex Q trap 4500	Precision 1
2	UPLC	Agilant 1290 infinity UPLC	Precision 1
3	Vacuum or Centrifugal Concentrator	Caliper Life Sciences, US/TurboVapII	Cleaning 4
4	Desktop Centrifuge	EPPENDORF, DE/5810	Preprocessing 9
5	Volute shaker	JISICO, ESJ-2370	Preprocessing 17
<Major reagents and vitreous devices>			
Product Name	Manufacturer	Specification	Note
Magnesium sulfate	Sigma-Aldrich	1,000g	
Sodium acetate	Sigma	250g	
Ammonium acetate	Merck	1,000g	
Acetonitrile	Fisher	4 L	
Acetic acid	Merck	1 L	
Dispersive 15ml Universal kit	Agilent	50 ea	
Micropipette	Gilson	1,000 µL	
Micropipette	Gilson	100 µL	
Glass bottle	Duran	500 mL	
Volumetric flask	Duran	500 mL	
Glass test tube	Fisher	16*125 mm	

Standards				
No.	Product name	Producer	Specification	Note
1	Abamectin	식약처분양	100ppm	
2	Amitraz	Accustandard	1,000ppm	
3	Bifenthrin	Accustandard	1,000ppm	
4	Carbaryl	Accustandard	1,000ppm	
5	Clothianidin	Accustandard	2,000ppm	
6	Cypermethrin	Accustandard	1,000ppm	
7	Diazinon	Accustandard	1,000ppm	
8	Dichlorvos	Accustandard	1,000ppm	
9	Ethoxazole	Accustandard	2,000ppm	
10	Fenitrothion	Accustandard	1,000ppm	
11	Fenobucarb	Accustandard	1,000ppm	
12	Fensulfothion	Accustandard	1,000ppm	
13	Fipronil	Accustandard	1,000ppm	
14	Flufenoxuron	Accustandard	1,000ppm	
15	Imidacloprid	Accustandard	10ppm	
16	Isofenphos	Accustandard	1,000ppm	
17	Ivermectin	Sigma	100ppm	
18	Methamidophos	Accustandard	100ppm	
19	Methodathion	Accustandard	1,000ppm	
20	Monocrotophos	Accustandard	1,000ppm	
21	Phorate	Accustandard	1,000ppm	
22	Pyrimphos methyl	Accustandard	1,000ppm	
23	Propoxur	Accustandard	1,000ppm	
24	Pyridaben	Accustandard	1,000ppm	
25	Spiromesifen	Accustandard	1,000ppm	
26	Sulfoxalor	Accustandard	2,000ppm	
27	Trichlorfon	Accustandard	100ppm	

Category	Mobile Phase	Note
Line A	0.1% formic acid in 5 mM Ammonium acetate solution	
Line B	0.1% formic acid in MeOH	

Time (min)	A (%)	B (%)	Flow rate (min/mL)
0.0	95	5	0.2 mL/min (injection: 2 µL)
3.0	10	90	
7.0	10	90	
7.1	95	5	
12.0	95	5	

* Column: Agilent ZORBAX Eclipse Plus C18(21*50 mm, 5 µm)/ Column temperature : 40°C

- Corrective Action

Laboratory Testing Diary

Date	10/19/17	Tester	
Sample	8 cases, Pesticides for edible eggs requested on October 12		
Test item	Advanced quantitative test for pesticides		
Test method	Testing for pesticide multi-residues (26 types) including Abamectin		
Result	Not detected		

- Test procedures

No.	Name of the Farm (Owner of the Farm)	Date collected
	Seochang Nonghyup (Kim)	09/20/17

<Major test/inspection equipment>

No.	Name of Equipment	Manufacturer & Model Name	Equipment Control No.
1	Mass Analyzer	Absiex Q trap 4500	Precision 1
2	UPLC	Agilent 1290 infinity UPLC	Precision 1
3	Vacuum or Centrifugal Concentrator	Caliper Life Sciences, US/TurboVapII	Cleaning 4
4	Desktop Centrifuge	EPPENDORF, DE/5810	Preprocessing 9
5	Volute shaker	JISICO, ESJ-2370	Preprocessing 17

<Major reagents and vitreous devices>

Product Name	Manufacturer	Specification	Note
Magnesium sulfate	Sigma-Aldrich	1,000g	
Sodium acetate	Sigma	250g	
Ammonium acetate	Merck	1,000g	
Acetonitrile	Fisher	4 L	
Acetic acid	Merck	1 L	
Dispersive 15ml Universal kit	Agilent	50 ea	
Micropipette	Gilson	1,000 µL	
Micropipette	Gilson	100 µL	
Glass bottle	Duran	500 mL	
Volumetric flask	Duran	500 mL	
Glass test tube	Fisher	16*125 mm	

Table 1. Mobile Phase

Category	Mobile Phase	Note
Line A	0.1% formic acid in 5 mM Ammonium acetate solution	
Line B	0.1% formic acid in MeOH	

Table 2. Gradient Program and Amount of Injection, Column Temperature

Time (min)	A (%)	B (%)	Flow rate (min/mL)
0.0	95	5	0.2 mL/min (injection: 2 µL)
3.0	10	90	
7.0	10	90	
7.1	95	5	
12.0	95	5	

* Column: Agilent ZORBAX Eclipse Plus C18(21*50 mm, 5 µm)/ Column temperature : 40°C

Reference 3.

- Finding

Laboratory Testing Diary

1. Date of Experiment	9/5-9/6/2017	
3. Sample	1 case, Korea Federation of Livestock Cooperatives requested on 9/4	
4. Testing Item	Rapid testing for residues	
5. Test Method	Manual for the analysis of harmful substances in livestock and fishery products (EEC 4 – plate, E.coli plate test)	
6. Test result	Please refer to the detail.	

7. Detailed test procedures

<Major test/inspection equipment>

No.	Name of Equipment	Manufacturer & Model Name	Equipment Control No.	Note
1	Freezer	Ilsin Lab, DF8527, 484L, -86°C	Residue-1	
2	General gravity convection incubator	Eyela, JP/LT1-601SD	Residue-2	
3	Constant-temperature water tank	Daihan Scientific, WB-11, 11L	Residue-4	

<Major reagents>

No.	Product Name	Manufacturer	Specification	Expiration Date	Note
1	Test agar pH 6.0	Merck	1.10663	01/22/2019	
2	Test agar pH 8.0	Merck	1.10664	01/12/2022	
3	Muller-Hinton agar pH 7.2	Merck	1.05437	10/10/2017	
4	Nutrient agar	Merck	1.05450	10/11/2021	
5	NaCl	Merck	1.06404	-	
6	BBL™ Trypticase™ soy broth (Soybean-Casein Digest Medium)	BD	211768	12/31/2019	

<Test strains>

No.	Name of the Strain	Manufacturer	Specification	Expiration Date	Note
1	Bacillus subtilis	Merck	1.10649	08/05/2017	
2	Escherichia coli	KCCM	ATCC 11303	-	
3	Kocuria rhizophila	Oxoid	ATCC 9341	10/17/2017	

- Corrective Action

Laboratory Testing Diary

1. Date of Experiment	10/19/2017	2. Tester	Kim, Gyeong-Su	Kim, Myeong-Gon <Signature>
3. Sample	1 case, Livestock Cooperatives of Seogwipo-si requested on 11/27			
4. Testing Item	Rapid testing for residues			
5. Test Method	Manual for the analysis of harmful substances in livestock and fishery products (EEC 4 – plate, E.coli plate test)			
6. Test result	Please refer to the detail.			

7. Detailed test procedures

<Major test/inspection equipment>

No.	Name of Equipment	Manufacturer & Model Name	Equipment Control No.	Note
1	Freezer	Ilsin Lab, DF8527, 484L, -86°C	Residue-1	
2	General gravity convection incubator	Eyela, JP/LT1-601SD	Residue-2	
3	Constant-temperature water tank	Daihan Scientific, WB-11, 11L	Residue-4	

<Major reagents>

No.	Product Name	Manufacturer	Specification	Expiration Date	Note
1	Test agar pH 6.0	Merck	1.10663	01/22/2019	
2	Test agar pH 8.0	Merck	1.10664	01/12/2022	
3	Muller-Hinton agar pH 7.2	Merck	1.05437	10/10/2017	
4	Nutrient agar	Merck	1.05450	10/11/2021	
5	NaCl	Merck	1.06404	-	
6	BBL™ Trypticase™ soy broth (Soybean-Casein Digest Medium)	BD	211768	12/31/2019	

<Test strains>

No.	Name of the Strain	Manufacturer	Specification	Expiration Date	Note
1	Bacillus subtilis	Merck	1.10649	08/05/2017	
2	Escherichia coli	KCCM	ATCC 11303	-	
3	Kocuria rhizophila	Oxoid	ATCC 9341	10/17/2017	

Reference 4.

- Finding

* Test Methods

1. Randomly select five samples from six samples.
2. Take samples aseptically from the five samples into a sterile sample bag so that each would be 25 g/ml.
3. Add each of the enrichment medium of listeria and salmonella bacteria (25 g, ml of sample + 225 ml of the enrichment medium).

(cultured at 5pm on 8/29/2017)

* Each pathogenic microorganism enrichment medium and selective medium

Type	Enrichment Medium	Conditions	Selective Medium	Conditions	Selective Medium
Listeria	Fraser/PAL CAM...	36°C, 18-24 hours	PAL CAM (charcoal)	37°C/48 hours	Blood-agar(hemolysis)
Staphylococcus aureus	TSB	36°C, 18-24 hours	Baird-Parker (black)	37°C/24 hours	Blood-agar (hemolysis) Mannitol (yellow)
Clostridium	Cooked Meat	35°C, 18-24 hours	TSC agar (black)	37°C/18-24 hours	Blood-agar (hemolysis)
Salmonella	BPW/TT/rv	35°C, 18-24 hours	XLD (black)	37°C/18-24 hours	Ram-agar (pink)
Campylobacter	Bolton broth	Primary culture: 36°C/4-5 hours Secondary culture: 40°C/4-5 hours	Cam agar (gray)	37°C/18-24 hours	

* Biochemical Test & Verification

Type	Biochemical Test	Verification
Listeria	Gram stain (+), camp test, catalase test (+)	
Staphylococcus aureus	Gram stain (+), catalase test (+), coagulase test (+)	
Clostridium	Skim milk test (clotting), Gram stain	
Salmonella	Gram stain (-), TSI, UREA	
Campylobacter	Gram stain (-)	

- Corrective Action

* Test Methods

1. Sterilize the wrapping area thoroughly before sampling, and collect the sample in the sterilized condition by opening the wrapping paper (weight 25 g). Then put it in the stomacher bag, add 9 times of sterilized BPD (225 ml), and put it to the stomacher and homogenize for 60 seconds.
2. Take 50 ml of the homogenized sample in a 50 ml sterile conical tube. (stock)
3. Take 1 ml of each sample and mix it with 9 ml of diluted solution (BPD) in a sterilized test tube. Dilute with 10 dilution method and dispense 1 ml of each into 2 Petri films per dilution ratio.
4. Count the number of colonies produced (gas-producing bacteria) after culturing in a 36°C incubator for 24 hours. And the average number of colonies is multiplied by the dilution factor to obtain the number of

coliforms.
 (cultured at 4 pm)
 (cultured at 5 pm on 9/27/2017, by Kim, Myeong Gon)

* Test Results – confirmed at 4:00 pm on 9/29/2017

	st	st-1	10 ¹	10 ¹ -1	Calculation (CFU/ml)	Result (CFU/g)
1-1	10	9	1	-	9.5	95
1-2	6	10	1	1	8	80
1-3	1	1	-	-	1	10
1-4	-	1	-	-	0.5	5
1-5	2	1	-	-	1.5	15

* Blank No abnormalities

Reference 5

- Finding

Calibrating Register (Self-Thermometer)						Authori- zation	Prepared by	Reviewed by	Approved by
Permissible limit						±2°C or less	Frequency		Once per three months (self-inspection)
For newly purchased thermometers, calibration report issued by the official organization shall be attached.									
No.	Name of measuring device	Calibration date	Calibration values			Next calibrati on date	Results	Note	
			Refere nce	Actual	Error				
1	Digital thermometer FOXPM5000	17.06.30	6.8	6.4	-0.4	17.09.29	Pass	Outer packaging room	
2	Digital thermometer FOXPM5000	17.06.30	7.2	8.4	1.2	17.09.29	Pass	Sorting room for Lines 1 and 2	
3	Digital thermometer FOXPM5000	17.06.30	6.8	6.5	-0.3	17.09.29	Pass	Selective packaging room for by-products	
4	Digital thermometer FOXPM5000	17.06.30	7.1	6.9	-0.2	17.09.29	Pass	Packaging room	
5	Digital thermometer FOXPM5000	17.06.30	3.5	3.9	0.4	17.09.29	Pass	Raw material storage	
6	Digital thermometer FOXPM5000	17.06.30	3.5	3.8	0.3	17.09.29	Pass	Loading	
7	Sharp Freezer 1	17.06.30	-7.4	-7.2	-0.2	17.09.29	Pass	Processing room	
8	Sharp Freezer 2	17.06.30	-10.5	-9.8	-0.7	17.09.29	Pass	Processing room	
9	Digital thermometer FOXPM5000	17.06.30	7.6	7.0	-0.6	17.09.29	Pass	Seasoned meat room	
10	Digital thermometer FOXPM5000	17.06.30	8.7	8.5	-0.2	17.09.29	Pass	MDM room	
11	Digital thermometer FOXPM5000	17.06.30	8.0	8.3	0.3	17.09.29	Pass	Duck processing room	
12	Digital thermometer FOXPM5000	17.06.30	8.5	8.5	0	17.09.29	Pass	Palleting room	
13	Digital thermometer FOXPM5000	17.06.30	4.2	4.4	0.2	17.09.29	Pass	Finished products for cool storage	

- Corrective Action

Calibrating Register (Self-Thermometer)	Authori- zation	Prepared by	Reviewed by	Approved by

Calibration date		Calibration time	: ~ :	Inspector	
Permissible limit	±2°C or less	Frequency	Once per three months (self-inspection); Once a year (by certified organization)		

For newly purchased thermometers, calibration report issued by the certified organization shall be attached.								
No.	Name of measuring device	Calibration date	Calibration values			Next calibration date	Results	Note
			Reference	Actual	Error			
1	Digital thermometer FOXPM5000	17.06.30	6.8	6.4	-0.4	17.09.29	Pass	Outer packaging room
2	Digital thermometer FOXPM5000	17.06.30	7.2	8.4	1.2	17.09.29	Pass	Sorting room for Lines 1 and 2
3	Digital thermometer FOXPM5000	17.06.30	6.8	6.5	-0.3	17.09.29	Pass	Selective packaging room for by-products
4	Digital thermometer FOXPM5000	17.06.30	7.1	6.9	-0.2	17.09.29	Pass	Packaging room
5	Digital thermometer FOXPM5000	17.06.30	3.5	3.9	0.4	17.09.29	Pass	Raw material storage
6	Digital thermometer FOXPM5000	17.06.30	3.5	3.8	0.3	17.09.29	Pass	Loading
7	Sharp Freezer 1	17.06.30	-7.4	-7.2	-0.2	17.09.29	Pass	Processing room
8	Sharp Freezer 2	17.06.30	-10.5	-9.8	-0.7	17.09.29	Pass	Processing room

Reference 6

- Finding

3.2 Hazard Analysis and Risk Evaluation during the Processes

Hazards: B (biological), C (Chemical), P (physical) Risk criteria: Sa (Satisfactory), Mi (Mild defect), Ma (Moderate defect), Cr (Critical defect)

No.	Process	Hazards		Hazard Analysis		Risk Evaluation		
				Hazard Analysis	Preventive measures and control methods	Possibility	Severe level	Risk
1-1	Warehousing of live chicken	B	Pathogenic microorganisms	- Pathogen contamination of the surface of live chickens - Intestinal contamination by pathogens - Cross-contamination by pathogens due to chicken cage - Cross-contamination by pathogens due to vehicles for live chickens	- Dead or contaminated chickens are not loaded. - Removal of dead chickens during resting	Low	Low	Mi
		C	Antibiotic residues	- Antibiotic overdose or non-compliance with withdrawal period after administration	- Perform antibiotic residue testing	Low	Low	Mi
		P	Foreign matter	- Feed residue in the crop sac due to transportation stress and shortage of resting time	- Removal of digestive organs during the process - Compliance with the resting time (within 3-6 hours)	Low	Low	Mi
1-2 2-2	warehousing/storage of water and ice	B	Pathogenic microorganism	- Cross-contamination by microorganisms in water - Cross-contamination due to water tank pollution	- Regular disinfection and cleaning of water tank (semi-yearly)	Low	Moderate	Mi
1-3 2-3	Warehousing/storage of chlorine water	C	Hazardous chemicals	- Excess content due to the addition of excess amount of chlorine - Supplied by storing in the disinfectant storage	- Verification of malfunctioning pump - Verification of measurement of valid chlorine (once / day) - Preparation and	Low	Moderate	Mi

					management of receipt and payment log at the time of supply			
1-4 2-4	Warehousing/storage of packaging paper and P Box	C	Hazardous chemicals	- Possibility of entering during the manufacturing, management and transportation of packing materials	- Verification of test report - Sanitary storage			
		P	Foreign matter	- Possibility of entering during the manufacturing, management and transportation of packing materials	- Thorough warehousing and storage	Low	High	Mi
		B	Pathogenic microorganism	- Cross-contamination due to defective cleaning after use or during the warehousing	- Cleaning after use (p box) - Inspection of washing conditions when warehousing (p box)	Low	High	Mi
2-1	Resting	B	Pathogenic microorganism	- Cross-contamination due to fecal contamination on the surface of live chickens or chickens that died during resting	- Removal of dead chickens before dumping	Low	Low	Mi
		P	Foreign matter	- Feed residue in the crop sac due to transportation stress and shortage of resting time	- Minimize transportation stress - Sufficient resting	Low	Low	Mi
3	Dumping of live chicken	B	Pathogenic microorganism	- Increase of falling bacteria caused by opening of the entrance door	- Execution of employee sanitation training	Low	Low	Mi

- Corrective Action

3.2 Hazard Analysis and Risk Evaluation during the Processes

Hazards: B (biological), C (Chemical), P (physical) Risk criteria: Sa (Satisfactory), Mi (Mild defect), Ma (Moderate defect), Cr (Critical defect)

No.	Process	Hazards		Hazard Analysis		Risk Evaluation		
				Hazard Analysis	Preventive measures and control methods	Possibility	Severe level	Risk
1-1	Warehousing of live chickens	B	E. coli	- Pathogen proliferation on the surface of live chickens - Pathogenic contamination by pathogens caused by poor	- Dead or contaminated chickens are not loaded. - Breeding and disease control of breeding farms - Cleaning and disinfection of vehicles before loading	Low	Moderate	Mi
		B	General bacteria			Low	Low	Mi
		B	Salmonella			Low	Moderate	Mi

				<p>sanitary condition on the floor and ceiling of chicken cage</p> <ul style="list-style-type: none"> - Pathogenic contamination due to excrement of live chickens while waiting for unloading in a resting facility - Pathogen contamination due to dead chickens that occur while waiting for unloading in a resting facility 	<ul style="list-style-type: none"> - Expansion of HACCP certification for integrated farm households - Strengthened cleaning and disinfection of chicken cage after unloading live chickens 			
		C	Benzalkonium chloride	<ul style="list-style-type: none"> - Respiratory contamination due to overspray when the vehicle carrying live chicken passes through the disinfection facility 	<ul style="list-style-type: none"> - Regular inspection of spray disinfection facilities - Training for driver of live chicken vehicles 	Rarely	High	Sa
		C	Antibiotic residues	<ul style="list-style-type: none"> - Antibiotic overdose or non-compliance with withdrawal period after administration 	<ul style="list-style-type: none"> - Perform antibiotic residue test 	Low	Moderate	Mi
		P	Wood	<ul style="list-style-type: none"> - Foreign matter contamination due to corrosion caused by aging chicken cage - Feed residue in the crop sac due to lack of fasting 	<ul style="list-style-type: none"> - Replacement of old chicken cages - Verification of official certificate at the time of warehousing - Management of rearing in breeding farms - Control through disposal of carcasses with feed residues during post-mortem inspection 	Rarely	High	Sa
		P	Metal			Low	Moderate	Mi
		P	Plastic			Low	Moderate	Mi
		P	Feed			Low	Moderate	Mi
1-2 2-2	warehousing/storage of water and ice	B	General bacteria	<ul style="list-style-type: none"> - Pathogenic cross-contamination due to defective cleaning of water tank - Pathogenic contamination caused by poor sanitary control of water/ice piping 	<ul style="list-style-type: none"> - Regular cleaning of water / ice piping - Execution of periodic cleaning of freezer - Strengthened cleaning and disinfection of ice storage / use of cover - Control during the self-inspection of drinking water - Regular disinfection and cleaning of regular water tank (semi-yearly) 	Low	Moderate	Mi
		B	E. coli			Low	Moderate	Mi
		B	Coliforms			Low	Moderate	Mi
		B	Manure-borne E. coli	<ul style="list-style-type: none"> - Pathogenic contamination caused by poor sanitary control of cooler - Pathogenic contamination caused by poor sanitation inside 	Low	Moderate	Mi	

				the ice storage				
		C	Active chlorine	- overuse of disinfectants - Residue of active chlorine	- Verification of test report	Low	Moderate	Mi
		P	Insects	- Contamination by foreign matters due to insufficient insect control around the water/ice piping	- Management of insecticides around the pipe - Verification of contamination by foreign matter during the screening process	Low	Moderate	Mi
		P	Metal	- Internal corrosion caused by aging of piping	- Step-by-step replacement of old pipes	Low	Low	Mi
1-3 2-3	Warehousing/storage of disinfectants (chlorine water)	C	Active chlorine	- Exceeding the content due to excess amount of chlorine - Supplied by storing in disinfectant storage	- Verification of malfunctioning pump - Verification of measurement of active chlorine (once/day) - Preparation and management of receipt and payment log at the time of supply	Low	Moderate	Mi

Reference 7

Additionally established CP1 to check the concentration of chlorine before the start of work.

CP1 (Concentration of chlorine added before work)	Authori- zation	Prepared by	Reviewed by	Approved by

Production process	CP	Control items	Monitoring		Corrective action	Verification	Person in charge of	Documentation
			Critical limit	Frequency				
Pre-chilling	CP1	Chlorine concentration of 2nd and 3rd chiller water	20-50 ppm	once a day (before work) Monitoring (Q.A) Collect samples using a 40 ml airtight container at the second chiller coolant + chlorine water drop point, 3rd chiller coolant + chlorine water drop point, and verify the concentration using a testing device.	<p>The monitoring personnel should record the noncompliance in the monitoring log and immediately report to the head of the production team and higher officials.</p> <p>1. Causal Analysis: - If the chlorine pipeline leaks (secure the inventory of chlorine injection line) <input type="checkbox"/> Repair or replace immediately. - If the chlorine injection pump is abnormal <input type="checkbox"/> Immediately use the spare pump and repair so that there are no abnormalities in chlorine injection.</p> <p>2. Normal return of CP - Check chlorine concentration is 20-50 ppm before operation.</p> <p>3. Processing affected products: - There were no affected products because it was before the product was introduced.</p> <p>4. Measures for Prevention of</p>	<p>1. Direct observation monitoring, direct observation of remedial measures (once a week)</p> <p>2. Review of records (once a day)</p>	Manager of Quality Department	CP1 Log

					Reoccurrence: - Proceed with the operation when the chlorine concentration reaches the proper range before operation. - Provide employee training.			

Chlorine Concentration Management Log Prior to the 2nd and 3rd Chiller Operation (Line 2)					
			01/23/2018		Inspector: Jung, Busun
CPI	Chlorine concentration of 2 nd and 3 rd chiller water (critical limit: 20-50 ppm in 2 nd and 3 rd chiller water, monitoring time: before work)				
No.	Inspection time	Chlorine concentration	Result	Signature	Note
1	08:10	29.0	Pass	<signature>	
2	08:10	36.8	Pass	<signature>	
3	08:10	35.1	Pass	<signature>	
4-1					
5-2					
6-3					
Location of Monitoring Chlorine Concentration Prior to the Work					
Record and signature for the occurrence of noncompliances			Record and signature of verification history		
1. Causal analysis			Direct observation		
2. Normal return of CP					
3. Processing of affected products			Review of records:		
4. Measures for prevention of reoccurrence			Nothing unusual based on the inspection result 1/23, 08:50, Jeong, Hyeon-bong		

Reference 8

- The Revised HACCP Plan

HACCP PLAN (CCP2)	Authori- zation	Prepared by	Reviewed by	Approved by

Production process	CCP 2	Control items	Monitoring		Corrective action	Verification	Person in charge of	Documentatio n
			Critical limit	Frequency				
Chilling process	CCP 2	Concentratio n of added chlorine (3 rd chiller)	20-50 ppm Chlorine meter (spectromete r method) Paper identification method (10- 50 ppm, 25- 200 ppm)	Once every two hours Monitoring (QA) 3rd Chiller water + Chlorine Sample taken in a 40 ml sealed container at the point of entry and immediatel y checked in the laboratory by a piece of paper or paper Collect samples using a 40ml airtight container at the third chiller coolant + chlorine water drop point, and immediatel y verify with group reagent or paper at a laboratory.	The monitoring personnel should record the noncompliance in the monitoring log and immediately report to the head of the production team and higher officials 1. Causal Analysis: - If the chlorine pipeline leaks (secure the inventory of chlorine injection line) → Repair or replace immediately. - If the chlorine injection pump is abnormal → Immediately use the spare pump and repair so that there are no abnormalities in chlorine injection. 2. Normal Return to CCP - Verify whether the chlorine concentration is maintained by chlorine added within the limit	1. Direct observation of monitoring activities (once a week, at the time of the quarantined slaughter) 2. Verification and review of the recorded items (once/day) 3. Verification/we t methods (food code) Chlorine concentration calibration table is prepared, and calibration is carried out at the sampling location once every two weeks for device measurements using the wet analysis values. The proper solution (0.1 N sodium thiosulfate) should be purchased. On the date of the calibration, Q.A will review the records of the calibration. The sampling location is indicated on the Measurement	Manage r of Quality Dept.	Record: CCP 2 log, calibration log

					standards.	Equipment Management Standard Document and the Chlorine Measurement Calibration Table.		
					<p>3. Processing affected product:</p> <ul style="list-style-type: none"> - After verifying the normal return of CCP2, the carcass produced during the CCP2 noncompliance is put back into the normalized chiller water and normalized. - Carcasses produced in chilled water exceeding chlorine concentration (50 - 100 ppm) should be washed by operating a cleaning spray facility while simultaneously making the coolant overflow as much as possible after stopping the chlorine injection pump so that they are cleaned and put through a sensory test. Carcasses with an odor of chlorine are discarded, and the rest are rehung at the rehang station.. - Chlorine concentration (100 ppm or more) are all disposed of. - For carcasses produced in chiller water with insufficient chlorine concentration, measures are taken for enhancing the chlorine disinfection by activating the chlorine spraying 			

					<p>facility. After monitoring that chlorine water concentration returns to the permissible range, the chlorine water spraying facilities is stopped. (The chlorine water spraying facility can be operated by making the chlorine water in the washing spraying facility.) For the products which have been passed to the packing line, temporarily store them in the refrigerated warehouse and air chiller room and conduct rehang after verifying that the chlorine concentration has returned to the permissible range.</p> <p>- Among the carcasses that fall under the above noncompliance, those that are refrigerated products should be discharged after QA test after performing the operation of volatilizing for 10 minutes by opening the package of the LOT within the range where no cross contamination occurs.</p>			
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					<p>4. Measures for Prevention of Reoccurrence</p> <ul style="list-style-type: none"> - Check by strengthening the chlorine measurement period for a limited period of time. - Check by strengthening the inspection period of facilities for a limited period of time. - Conduct a training for workers. 			
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- History of CCP2 revisions

34		<ul style="list-style-type: none"> ○ Reflecting the HACCP meeting results on September 19th ○ Improvement of the matters pointed out during the U.S. FISI inspection <ul style="list-style-type: none"> - change of hazard list (pre-chilling, main chilling, and disinfectants are established additionally.) - Addition of CP1 (measurement of chlorine concentration before work) - Change of sampling location for HACCP PLAN CCP1 	09/20/2017	Established
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- Minutes Related to Improvement of the Matters Pointed out by the U.S.

HACCP Related Meeting Report	Authori zation	Prepared by	Reviewed by	Approved by

Category	Details				
Date	09/19/2017	Meeting location	Meeting room	Time	13:00 – 14:00
Agenda	Agenda: Discussion for improvement of matters pointed out by the U.S. FSIS Inspection				
Attendees	Department	Position	Name	Signature	Remark
	Production team	Senior manager	Yun, Yeon Sang		
	Quality assurance	Ass. manager	Jung, Hyun Bong		
	Production	Senior manager	Lee, Jin Cheol		
	Logistics	Manager	Ji, Myeong Su		
	Environment	Director	Yang, Tae Young		
	Public affairs	Staff	Song, Wo Jeong		
Details of the meeting	* Discussion of improvement measures regarding the matters pointed out during the U.S. FSIS Inspection				
Decisions	<p>1) Re-execution of the evaluation table of hazard factors : Execute re-evaluation due to the missing preliminary freezing chlorine</p> <p>2) Check chlorine concentration before work : CP-1 (Chlorine concentration before work) is established additionally.</p>				

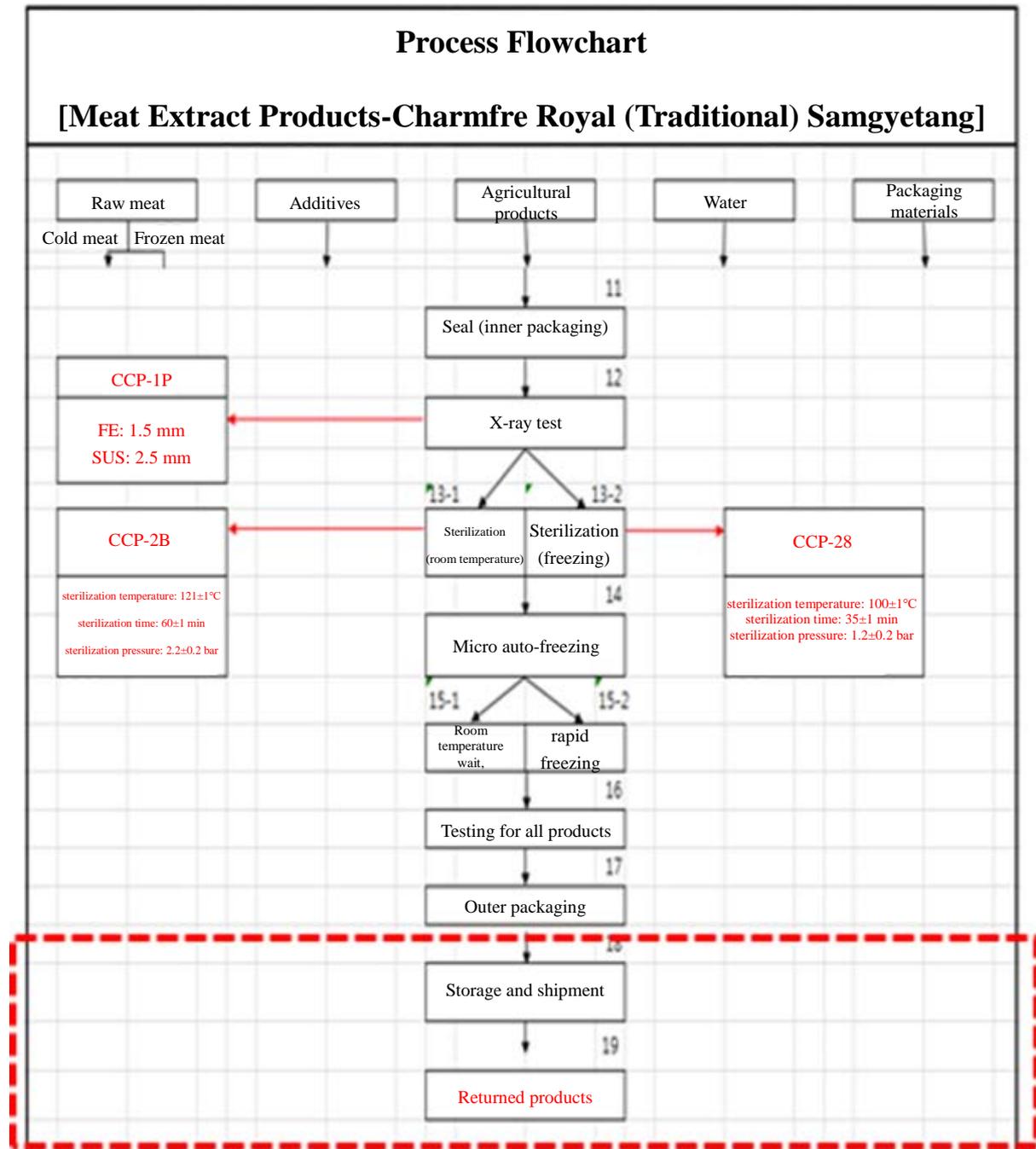
	3) Change of CCP-2 sampling location : Sampling at the existing outlet -> Change of sampling location to the chlorine input area 4) Change of storage location for disinfection drugs : Before change, below the stairs on the first floor -> After change, storage in the packing facility 5) Matters pointed on site : Holes and exposed areas in the wire are fixed immediately. Damaged areas on the door of the refrigeration warehouse will be repaired partially by October 31
Special note	Changes are performed immediately.

- CCP2 Log

CCP2 Monitoring Records (Line 2)					
			01/23/2018	Inspector: Jung, Busun	
CCP2	Chlorine concentration (critical limit: 20-50 ppm, monitoring time: once every 2 hour)				
No.	Inspection time	Chlorine concentration	Result	Signature	Note
1	08:10	29.0	Pass		
2	10:00	29.6	Pass		
3	10:00	30.5	Pass		
4	14:20	29.8	Pass		
5	16:00	28.0	Pass		
6	18:00	28.9	Pass		
7					
8					
9					
Record and signature for the occurrence of noncompliances			Record and signature of verification history		
1. Causal analysis			Direct observation		
2. Normal return of CP					
3. Processing of affected products			Review of records:		
4. Measures for prevention of reoccurrence			Nothing unusual based on the inspection result 1/21, 20:00 , Jeong, Hyeon-bong		

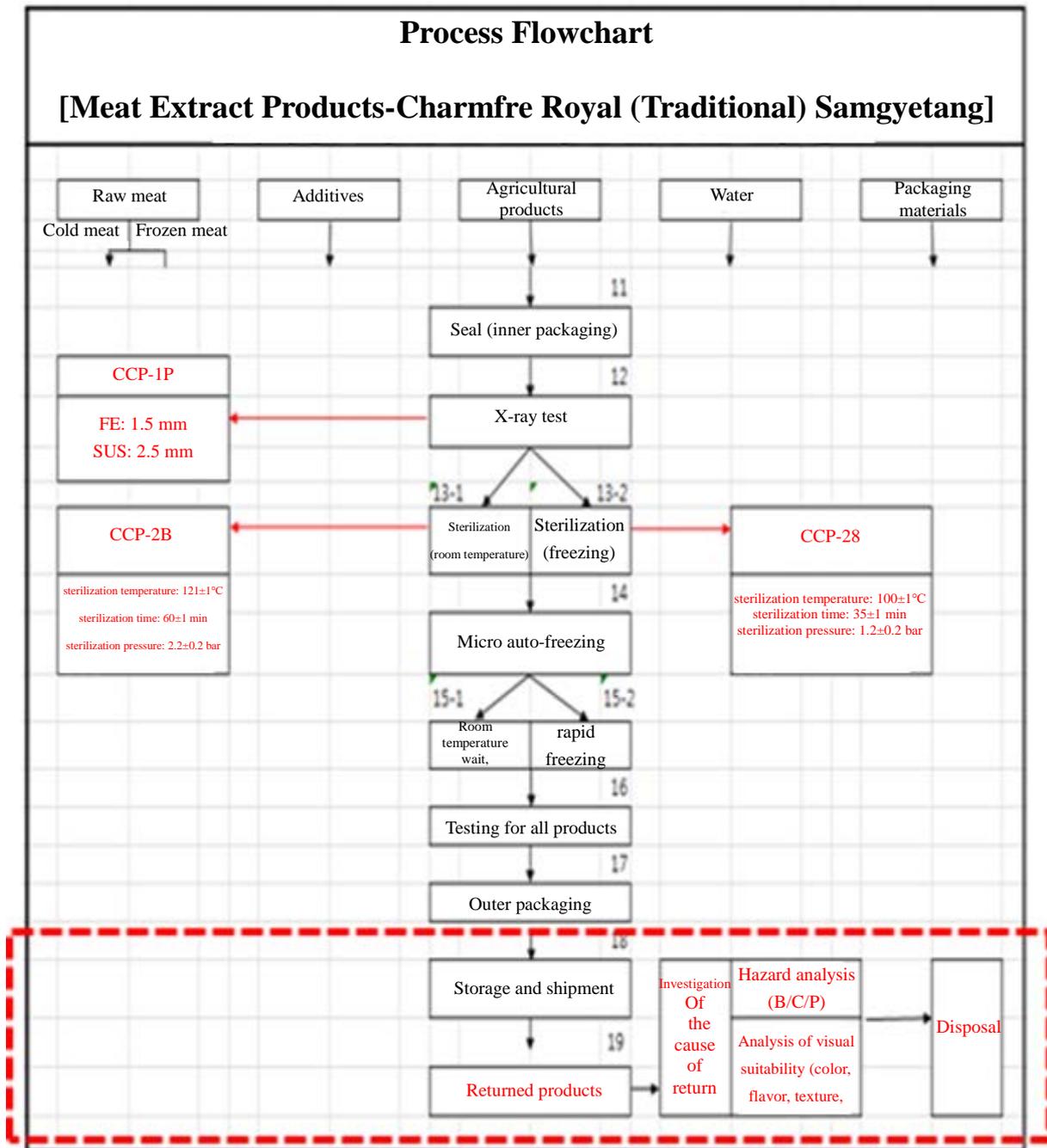
Reference 9

- Finding



Hazard Analysis Table (Process)								
No.	Process	Hazard		Causes (origin)	Risk assessment			Control measures
		Category	Types		Severity	Likelihood of occurrence	Result	
12	X-Ray detection	P	Metal/non-metal	Contamination due to X-RAY detector operation and defective strength.	High (3)	Low (1)	Hazard (3)	Verification of X-RAY operation status and the X-RAY sensitivity
13-1	Sterilization	B	Bacteria	Microbial growth due to poor packing and loosening. Growth of residual microorganisms due to noncompliance with sterilization (pasteurization) temperature and time.	High (3)	Low (1)	Hazard (3)	Compliance with sterilization(pasteurization) temperature, time, and pressure / Regular verification of F0 value / Verification of automatic recording
13-2	Pasteurization	B	Coliforms	Microbial growth due to poor packing and loosening. Growth of residual microorganisms due to noncompliance with sterilization (pasteurization) temperature and time.	Moderate (2)	Low (1)	No hazard (2)	Compliance with sterilization temperature, time, and pressure / Regular verification of F0 value / Verification of automatic recording
			Salmonella spp.		Moderate (2)	Low (1)	No hazard (2)	
14	Micro auto-freezing	B	Bacteria	Microbial growth due to poor packing and loosening. Growth of residual microorganisms due to noncompliance with freezing time.	High (3)	Low (1)	Hazard (3)	Monitoring of sterilization (pasteurization) program / Compliance with freezing time
15-1 15-2	Room temperature waiting/freezing	B	Bacteria	Microbial growth due to poor packing and loosening. Growth of residual microorganisms due to noncompliance with waiting time	High (3)	Low (1)	Hazard (3)	Monitoring record of waiting time / Compliance with hte waiting time
16	Test for all products	B	Bacteria	Microbial growth due to abnormal operation and shock. Growth of residual microorganisms due to noncompliance sterilization (pasteurization) temperature and time.	High (3)	Low (1)	Hazard (3)	Selection of products with impact occurrence and expanded products
17-18	Outer packaging/shipment	P	Dust/Foreign matter	Possibility of contamination when the package is damaged due to careless handling.	Low (1)	Low (1)	Hazard (3)	Workers compliance/education for transportation and storage standards

- Corrective Action



Hazard Analysis Table (Process)

No.	Process	Hazard		Causes (origin)	Risk assessment			Control measures
		Category	Types		Severity	Likelihood of occurrence	Result	
12	X-Ray detection	P	Metal/non-metal	Contamination due to X-RAY detector operation and defective strength.	High (3)	Low (1)	Hazard (3)	Verification of X-RAY operation status and the X-RAY sensitivity
13-1	Sterilization	B	Bacteria	Microbial growth due to poor packing and loosening. Growth of residual microorganisms due to noncompliance with sterilization (pasteurization) temperature and time.	High (3)	Low (1)	Hazard (3)	Compliance with sterilization(pasteurization) temperature, time, and pressure / Regular verification of F0 value / Verification of automatic recording
13-2	Pasteurization	B	Coliforms	Microbial growth due to poor packing and loosening. Growth of residual microorganisms due to noncompliance with sterilization (pasteurization) temperature and time.	Moderate (2)	Low (1)	No hazard (2)	Compliance with sterilization temperature, time, and pressure / Regular verification of F0 value / Verification of automatic recording
			Salmonella spp.		Moderate (2)		No hazard (2)	
14	Micro auto-freezing	B	Bacteria	Microbial growth due to poor packing and loosening. Growth of residual microorganisms due to noncompliance with freezing time.	High (3)	Low (1)	Hazard (3)	Monitoring of sterilization (pasteurization) program / Compliance with freezing time
15-1 15-2	Room temperature waiting/freezing	B	Bacteria	Microbial growth due to poor packing and loosening. Growth of residual microorganisms due to noncompliance with waiting time	High (3)	Low (1)	Hazard (3)	Monitoring record of waiting time / Compliance with hte waiting time
16	Test for all products	B	Bacteria	Microbial growth due to abnormal operation and shock. Growth of residual microorganisms due to noncompliance sterilization (pasteurization) temperature and time.	High (3)	Low (1)	Hazard (3)	Selection of products with impact occurrence and expanded products
17-18	Outer packaging/shipment	P	Dust/ Foreign matter	Possibility of contamination when the package is damaged due to careless handling.	Low (1)	Low (1)	No hazard (1)	Workers compliance/education for transportation and storage standards
19	Returned products	B	Bacteria	Microbial growth due to poor storage and loosening. Microbial growth due to defective packaging and loosening.	Low (1)	Low (1)	No hazard (1)	Compliance with storage methods and temperature standards. Selective removal of defective products before packing.
		C	Tar color	Artificial addition. Contamination in the manufacturing environment secondary materials	Low (1)	Low (1)	No hazard (1)	Regular inspection (lot)
		P	Foreign matter	Possibility of contamination during packing due to careless handling	Low (1)	Low (1)	No hazard (1)	Compliance/training of workers' transportation storage standards
		Visual	Color, flavor, texture, appearance	Possible occurrence due to non-compliance with processing standards.	Low (1)	Low (1)	No hazard (1)	Execution of sensory evaluation monitoring

Reference 10

- Finding

Process control checklist (Charmfre Royal Samgyetang)	Authorization	Prepared by	Reviewed by (1)	Reviewed by (2)	Approved by

Department: Quality Dept.		Inspection date: / /			Inspector:			
Process name		Control items	Standards	Product	Charmfre Royal Samgyetang	Product	Charmfre Royal Samgyetang	Note
				Time	:	Time	:	
Inner packaging	Manufacture of seasoning	Heating temperature	85-90°C	Pass/fail		Pass/fail		
		Heating time	5 min - >add seasoning - > 30 min	Pass/fail		Pass/fail		
		Salinity of seasoning	0.6±0.1%					
Retort	Pasteurization / sterilization	Temperature	121±1°C	CCP-2B				
		Pressure	2.2±0.2 bar					
		Time	60±1 min					
		Freezing	25±5 min	Pass/fail	Pass/fail			
Outer packaging	Outer packaging (box packing)	Amount	800 g *10	Pass/fail		Pass/fail		
		Expiration date	Conformity of the inner wrapping paper	/ /	/ /	18 months		
Distribution room	Storage	Temperature	-2 - 10°C	°C		°C		
Time	Deviations from the standards	Corrective actions and result						Confirm

- Corrective Action

Charmfre	Prerequisite Program	Doc. No.	
		Established date	
		Revised date	
	Inspection Standard Document	Revision No.	
		Page	

- 1) Sample name
- 2) Date of manufacture or expiration date (quality maintenance period)
- 3) Date of inspection
- 4) Test items, test standards and test results
- 5) Decision and date of decision
- 6) Signature of tester and decision maker
- 7) Other necessary matters

5.6.3 Before shipment, inspect the product name, product status, packing status, labeling of expiration date, etc., and record it in the process checklist log.

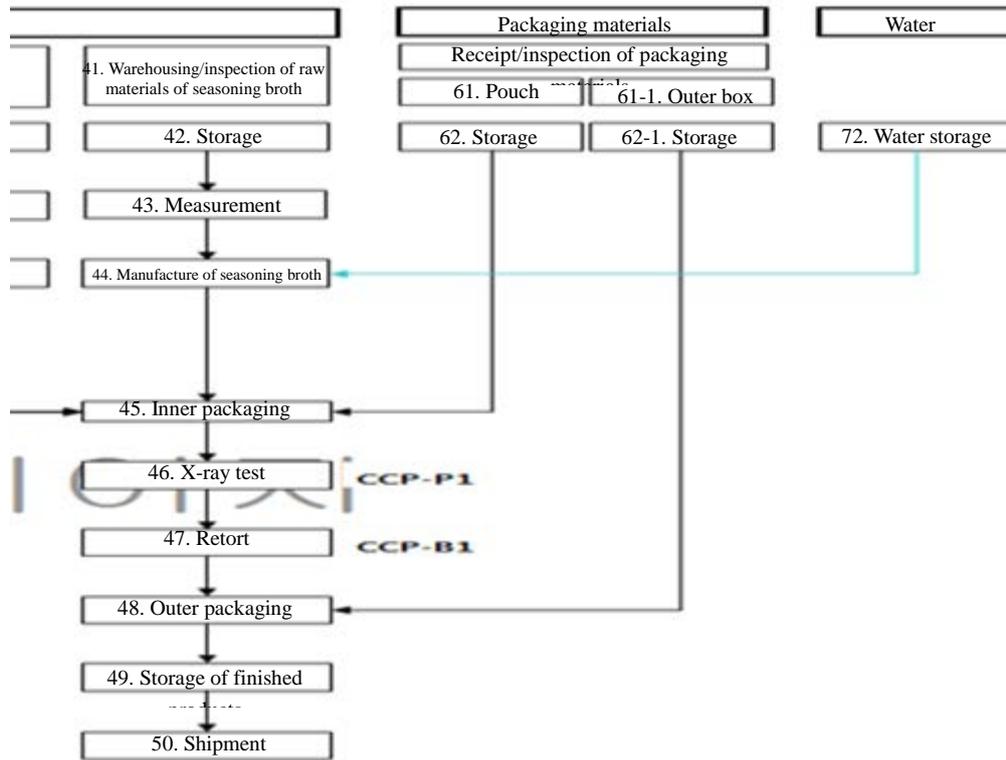
5.6.4 In case of export products, the quality control official shall check abnormalities in the product for export using the checklist for finished products for export (before shipment).

Authorization	Prepared by	Reviewed by	Approved by

Inspector		Inspection date	
Storage location		Storage temperature	
Exporter		Importing country	
Category		Checklist	
Product information	Name		
	Quantity (weight)	Box / kg	
	Conditions	Compliant / Non-compliant	
	Slaughtered date	Year Month day	
	Processing date	Year Month day	
	Expiration date	Year Month day	
Verification of documents	Shipping date	Year Month day	
	Verification of process management log records	Compliant / Non-compliant	
	CCP log check	Compliant / Non-compliant	
	Laboratory test	Compliant / Non-compliant	
Final decision	Corrective action		
	Compliant	Non-compliant Reasons:	

Reference 11

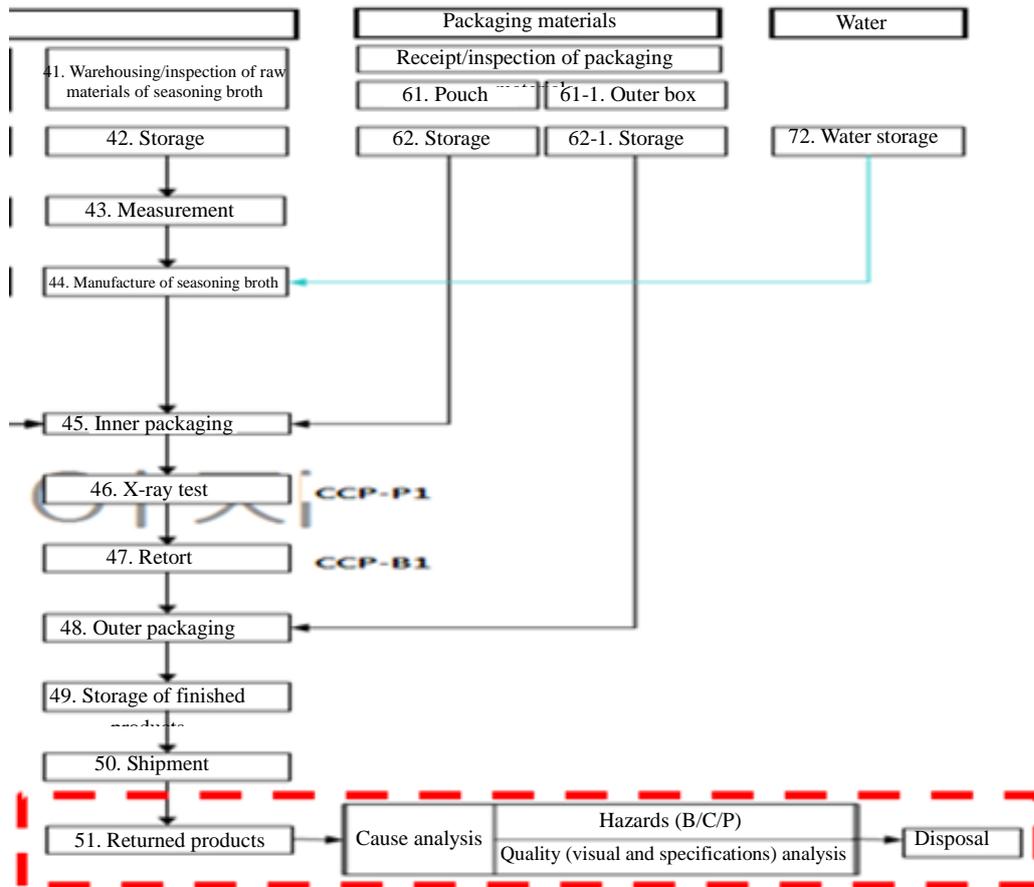
- Finding



No.	Category	Hazards	Causes (origin)	Risk assessment			Control measures	
				Severity	Likelihood of occurrence	Result		
49	Finished products	B	General bacteria	- Pouch breakage and cross contamination due to worker's carelessness	Low	Almost none	Pass	- Worker's job training and sanitation education - Disposal of non-compliant product (breakage)
			Coliforms		Low	Almost none	Pass	
			E. coli		Moderate	Almost none	Pass	
			S. aureus		Low	Almost none	Pass	
		C	N/A					
		P	Plastic	- Pouch breakage and foreign matter's entrance due to worker's carelessness	Moderate	Almost none	Pass	- Worker's job training and sanitation education - Disposal of non-compliant product (breakage)
			Rubber		Low	Almost none	Pass	
			Paper		Low	Almost none	Pass	
Hair	Low		Almost none		Pass			

			Thread, strings		Low	Almost none	Pass		
			Insect		Low	Almost none	Pass		
50	Shipment	B	General bacteria	- Pouch breakage and cross contamination due to worker's carelessness	Low	Almost none	Pass	- Worker's job training and sanitation education - Disposal of non-compliant product (breakage)	
			Coliforms		Low	Almost none	Pass		
			E. coli		Moderate	Almost none	Pass		
			S. aureus		Low	Almost none	Pass		
		C	N/A						
		P	Plastic	- Pouch breakage and foreign matter's entrance due to worker's carelessness	Moderate	Almost none	Pass	- Worker's job training and sanitation education - Disposal of non-compliant product (breakage)	
			Rubber		Low	Almost none	Pass		
			Paper		Low	Almost none	Pass		
			Hair		Low	Almost none	Pass		
			Thread, strings		Low	Almost none	Pass		
Insect	Low		Almost none		Pass				

- Corrective Action



No.	Category	Hazards	Causes (origin)	Risk assessment			Control measures	
				Severity	Likelihood of occurrence	Result		
49	Finished products	B	General bacteria	- Pouch breakage and cross contamination due to worker's carelessness	Low	Almost none	Pass	- Worker's job training and sanitation education - Disposal of non-compliant product (breakage)
			Coliforms		Low	Almost none	Pass	
			E. coli		Moderate	Almost none	Pass	
			S. aureus		Low	Almost none	Pass	
		C	N/A					
		P	Plastic	- Pouch breakage and foreign matter's entrance due to worker's carelessness	Moderate	Almost none	Pass	- Worker's job training and sanitation education - Disposal of non-compliant product (breakage)
			Rubber		Low	Almost none	Pass	
			Paper		Low	Almost none	Pass	
			Hair		Low	Almost none	Pass	
			Thread, strings		Low	Almost none	Pass	
Insect	Low		Almost none		Pass			
50	Shipment	B	General bacteria	- Pouch breakage and cross contamination due to worker's carelessness	Low	Almost none	Pass	- Worker's job training and sanitation education - Disposal of non-compliant product (breakage)
			Coliforms		Low	Almost none	Pass	
			E. coli		Moderate	Almost none	Pass	
			S. aureus		Low	Almost none	Pass	
		C	N/A					
		P	Plastic	- Pouch breakage and foreign matter's entrance due to worker's carelessness	Moderate	Almost none	Pass	- Worker's job training and sanitation education - Disposal of non-compliant product (breakage)
			Rubber		Low	Almost none	Pass	
			Paper		Low	Almost none	Pass	
			Hair		Low	Almost none	Pass	
			Thread, strings		Low	Almost none	Pass	
Insect	Low		Almost none		Pass			
50	Returned products	B	General bacteria	- Microorganisms remaining due to abnormalities in the manufacturing process - Cross-contamination due to breakage during distribution - Cross-contamination due to consumer's carelessness during the handling	Low	Almost none	Pass	- Cause analysis and corrective action
			Coliforms		Low	Almost none	Pass	
			E. coli		Moderate	Almost none	Pass	
			S. aureus		Low	Almost none	Pass	
		C	N/A					
		P	Soft foreign matter	- Microorganisms remaining due to abnormalities in the manufacturing process - Cross-contamination due to breakage during distribution - Cross-contamination due to consumer's carelessness during the handling	Moderate	Almost none	Pass	- Cause analysis and corrective action
			Hard foreign matter		Low	Almost none	Pass	
			Metallic matter		Low	Almost none	Pass	

Reference 12

- Finding

7. Pre-shipment Verification of Export Products

7.1 Operation procedures

- (1) The verification manager shall carry out the final verification of the process, sanitation and product of the relevant products through the records and test reports in accordance with the (Checklist for Pre-shipment Verification of Export Products) in relation to the Samgyetang to be exported to the U.S. before shipment, decide the suitability of products and maintain the its results in the [Checklist for Pre-shipment Verification of Export Products].
- (2) If an abnormality occurs, or it is deemed necessary, a sample may be collected to request a test inspection to the person in charge of analysis.
- (3) Result of verification before product shipment shows compliance, the quality manager shall share the result with the production department so that the product can be shipped. In case of noncompliance, it shall be disposed of or processed separately according to the [Guidelines for Control of Noncompliance].

Category	Verification	Method	Documentation	Responsible party	Frequency
Warehousing of raw materials (raw chicken)	Check compliance with raw materials specifications	Review logs and records that are related to the production of export products	Warehousing inspection log / raw materials inspection report	Division of verification management	Before product shipment
Thawing	Check conformity with process standards (X-ray processing, and for retort process, check whether it complies with the standards of limit.)		Chicken preprocessing log		
Trim			Chicken preprocessing log		
Washing			Chicken preprocessing log		
Filling			Chicken processing log		
Cooking			Chicken processing log		
Cooling			Chicken processing log		
Washing of secondary raw materials			Washing process management log		
Sorting			Sorting process management log		
Fat removal			Weighing process management log		
Measuring			Processing management log		
Seasoning broth			Mixing process management log		
Inner packaging			Inner packing process log		
X-ray test			CCP + P1 checklist (X-ray detection process)		
Retort			CCP + B1 checklist (retort process)		
Outer packaging			Outer packing process log		
Verification of sanitation			Check the sanitary conditions of employees, production room; check the temperature of production room		
Verification of product		Check the specifications of finished products	Livestock products processing industry, self-sanitation checklist, workplace sanitation checklist, workplace temperature checklist		

- Corrective Action

Checklist for Pre-shipment Verification of Export Products	Prepared by	Reviewed by	Approved by
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- Verification date:					
1. Verification of processes					
Category		Documents		Verification result	Remark
Warehousing of raw materials		Warehousing inspection log		Pass / Fail	
Thawing		Chicken preprocessing log		Pass / Fail	
Trim		Chicken preprocessing log		Pass / Fail	
Washing		Chicken preprocessing log		Pass / Fail	
Filling		Chicken processing log		Pass / Fail	
Cooking		Chicken processing log		Pass / Fail	
Cooling		Chicken processing log		Pass / Fail	
Washing of secondary raw materials		Washing process management log		Pass / Fail	
Sorting		Sorting process management log		Pass / Fail	
Cutting		Weighing process management log		Pass / Fail	
Measuring		Processing management log		Pass / Fail	
Seasoning broth		Mixing process management log		Pass / Fail	
Inner packaging		Inner packing process log		Pass / Fail	
X-ray test		CCP + P1 checklist (X-ray detection process)		Pass / Fail	
Retort		CCP + B1 checklist (retort process)		Pass / Fail	
Outer packaging		Outer packing process log		Pass / Fail	
2. Verification of sanitation					
Category		Documents		Verification result	Remark
Sanitation		Self-sanitation inspection table for livestock products processing industry		Pass / Fail	
Sanitation		Workplace sanitation checklist		Pass / Fail	
Sanitation		Workplace sanitation checklist		Pass / Fail	
Temperature		Workplace temperature checklist		Pass / Fail	
3. Verification of products					
Category		Documents		Verification result	Remark
Inspection of finished products		Finished product inspection chart		Pass / Fail	
Inspection of finished products		Microbiological test report		Pass / Fail	
4. Deviations					
Date occurred	Location	Deviations	Corrective action & result	Date for correction made	Verification

Reference 13

- Finding

No.	Category	Hazards	Causes (origin)	Risk assessment			Control measures	
				Severity	Likelihood of occurrence	Result		
1 11 21 31 41	Warehousing (raw materials)	B	General bacteria	- Cross-contamination due to insufficient control of cleaning and disinfection of measurement device, transportation vehicles, transportation tools, and pallet	Low	Almost none	Pass	<ul style="list-style-type: none"> - Warehousing inspection of raw materials - Inspection of microorganisms in raw materials and verification of results - Vendor evaluation and management - Transportation vehicles and tools management - Sanitation control of transportation vehicles and work tools - Temperature control, air temperature control and inspection of transport vehicle - Worker's sanitation training and sanitation control - Compliance with retort process standards
			Coliforms		Low	Almost none	Pass	
			C. perfringens		Low	Almost none	Pass	
			E. coli		Moderate	Almost none	Pass	
			Enterohemorrhagic E. coli		High	Almost none	Pass	
			L. monocytogenes	- Microbial growth due to deviation from temperature standards during the transportation	High	Almost none	Pass	
			Salmonella spp	- Cross-contamination due to the worker's carelessness in handling and packing damage	Moderate	Almost none	Pass	
		S. aureus	- Cross-contamination due to the worker's personal sanitation problem	Low	Almost none	Pass		
		P	Plastic	- Entering of foreign matters due to the damages in the transportation vehicle, transportation tools, and pallet and insufficient control of cleaning and disinfection	Moderate	Almost none	Pass	
			Vinyl		Low	Almost none	Pass	
			Rubber		Low	Almost none	Pass	
			Paper		Low	Almost none	Pass	
			Hair	- Entering of foreign matters due to the worker's carelessness in handling and packing damage	Low	Almost none	Pass	
			Thread/strings		Low	Almost none	Pass	
Insect	- Entering of foreign matters due to the worker's personal sanitation problem		Low	Almost none	Pass			
61	Warehousing (inner packaging materials)	B	General bacteria	- Cross-contamination due to damages in the transportation vehicle and tools and insufficient control of cleaning and disinfection	Low	Almost none	Pass	<ul style="list-style-type: none"> - Warehousing inspection of secondary materials - Inspection control of transportation vehicle / equipment - Worker's training and sanitation management
			Coliforms		Low	Almost none	Pass	
			E. coli		Moderate	Almost none	Pass	
			S. aureus	- Cross-contamination due to worker's carelessness and damaged packing - Cross-contamination due to the worker's personal sanitation problem	Low	Almost none	Pass	
		P	Plastic	- Entering of foreign matter due to damages in the transportation vehicle and tools and insufficient control of cleaning and disinfection	Moderate	Almost none	Pass	
			Hair		Low	Almost none	Pass	
			Thread		Low	Almost none	Pass	
			Rubber	- Entering of foreign matter due to damaged packaging resulting from the worker's carelessness	Low	Almost none	Pass	
			Paper		Low	Almost none	Pass	
					Low	Almost none	Pass	

		Vinyl	- Entering of foreign matter due to worker's personal sanitation problem	Low	Almost none	Pass	
		Insect		Low	Almost none	Pass	

- Corrective Action

No.	Category	Hazards	Causes (origin)	Risk assessment			Control measures			
				Severity	Likelihood of occurrence	Result				
1 11 21 31 41	Warehousing (raw materials)	B	General bacteria	- Cross-contamination due to insufficient control of cleaning and disinfection of measurement device, transportation vehicles, transportation tools, and pallet - Microbial growth due to deviation from temperature standards during the transportation - Cross-contamination due to the worker's carelessness in handling and packing damage	Low	Almost none	Pass	- Warehousing inspection of raw materials - Inspection of microorganisms in raw materials and verification of results - Vendor evaluation and management - Transportation vehicles and tools management - Sanitation control of transportation vehicles and work tools - Temperature control, air temperature control and inspection of transport vehicle - Worker's sanitation training and sanitation control - Compliance with retort process standards		
			Coliforms		Low	Almost none	Pass			
			C. perfringens		Low	Almost none	Pass			
			E. coli		Moderate	Almost none	Pass			
			Enterohemorrhagic E. coli		High	Almost none	Pass			
			L. monocytogenes		High	Almost none	Pass			
			Salmonella spp		Moderate	Almost none	Pass			
		S. aureus	Low	Almost none	Pass					
		C	Allergen	Responses to personal physical characteristics	Moderate	Almost none	Pass		Allergy warning label	
		P	Plastic	- Entering of foreign matters due to the damages in the transportation vehicle, transportation tools, and pallet and insufficient control of cleaning and disinfection - Entering of foreign matters due to the worker's carelessness in handling and packing damage - Entering of foreign matters due to the worker's personal sanitation problem	Moderate	Almost none	Pass		- Warehousing inspection of raw materials - Transport vehicle (inspection / cleaning control of work tool) - Worker's training and sanitation management - Foreign matter control during the manufacturing process - Visual confirmation, selection, filtration - Compliance with metal detection process management standard	
			Vinyl		Low	Almost none	Pass			
			Rubber		Low	Almost none	Pass			
			Paper		Low	Almost none	Pass			
			Hair		Low	Almost none	Pass			
Thread/strings	Low		Almost none		Pass					
Insect	Low	Almost none	Pass							
61	Warehousing (inner packaging materials)	B	General bacteria	- Cross-contamination due to damages in the transportation vehicle and tools and insufficient control of cleaning and disinfection - Cross-contamination due to worker's carelessness and damaged packing - Cross-contamination due to the worker's personal sanitation problem	Low	Almost none	Pass	- Warehousing inspection of secondary materials - Inspection control of transportation vehicle / equipment - Worker's training and sanitation management		
			Coliforms		Low	Almost none	Pass			
			E. coli		Moderate	Almost none	Pass			
			S. aureus		Low	Almost none	Pass			
		C	N/A							
			P	Plastic	- Entering of foreign matter due to damages in the transportation vehicle and tools and insufficient control of cleaning and disinfection - Entering of foreign matter due to damaged	Moderate	Almost none		Pass	- Warehousing inspection of secondary materials - Inspection control of transportation vehicle / equipment - Worker's training and sanitation control - Visual inspection during
				Hair		Low	Almost none		Pass	
				Thread		Low	Almost none		Pass	
Rubber	Low	Almost none		Pass						

		Paper	packaging resulting from the worker's carelessness - Entering of foreign matter due to worker's personal sanitation problem	Low	Almost none	Pass	the process
		Vinyl		Low	Almost none	Pass	
		Insect		Low	Almost none	Pass	

Reference 14

- Finding

①		Category	Hazards	②		
Warehousing and storage	B	and	<i>L. monocytogenes</i>	Fat removal from raw meat	B	<i>Pathogenic E. coli</i>
			<i>Salmonella spp.</i>			<i>Salmonella spp.</i>
			<i>S. aureus</i>			<i>S. aureus</i>
Seasoning broth	P		<i>B. cereus</i>	Detecting metals	I	<i>C. perfringens</i>
			Entrance of foreign matters			Foreign matters
Packaging	B		<i>L. monocytogenes</i>	Boil-cooking	B	<i>Pathogenic E. coli</i>
			<i>Salmonella spp.</i>			<i>Salmonella spp.</i>
			<i>S. aureus</i>			<i>S. aureus</i>
	<i>B. cereus</i>	<i>C. perfringens</i>				
	P		Debris and foreign matters of the wrapping paper			<i>B. cereus</i>
						<i>C. perfringens</i>

- Corrective Action

Category		Hazards				
Warehousing and storage	B	and	<i>L. monocytogenes</i>	Fat removal from raw meat	B	<i>Pathogenic E. coli</i>
			<i>Salmonella spp.</i>			<i>Salmonella spp.</i>
			<i>S. aureus</i>			<i>S. aureus</i>
			<i>B. cereus</i>			<i>B. cereus</i>
			<i>C. perfringens</i>			<i>C. perfringens</i>
	C		Has not been verified		C	Has not been verified
	P		Glass piece, metal, plastic		P	Glass piece, metal, plastic
Washing raw meat	B		<i>L. monocytogenes</i>	Washing raw meat	B	<i>Pathogenic E. coli</i>
			<i>Salmonella spp.</i>			<i>Salmonella spp.</i>
			<i>S. aureus</i>			<i>S. aureus</i>
			<i>B. cereus</i>			<i>B. cereus</i>
	C		Has not been verified		C	Has not been verified
	P		Has not been verified		P	Has not been verified
Filling the raw meat	B		<i>L. monocytogenes</i>	Filling the raw meat	B	<i>Pathogenic E. coli</i>
			<i>Salmonella spp.</i>			<i>Salmonella spp.</i>
			<i>S. aureus</i>			<i>S. aureus</i>
			<i>B. cereus</i>			<i>B. cereus</i>
	C		Has not been verified		C	Has not been verified
	P		Metal		P	Metal
Detecting metals	B		Has not been verified	Detecting metals	B	Has not been verified
			Has not been verified			Has not been verified
			Metallic things			Metallic things

Reference 15

- Finding

O: Good X: Poor	Daily Sanitation Inspection Log		Authorization	Prepared by	Reviewed by	Approved by
			08/29	08/29	08/29	
			Inspection date: 08/29/2017, Tuesday			
Checklists		Time	Note	Non-compliance	Corrective action	
Inspection time		08:20				
Are employees free from sicknesses and trauma, and are they in good health?		O				
Are the status of wearing hygiene clothing, hat, shoes, and mask and their cleanliness appropriate?		O				
Are personal hygiene rules related to clean hair, no jewelry, etc. adhered and suitable?		O				
Are entrance regulations on entering the workplace adhere to?		O				
Inspection time		08:34				
Are the cleaning and disinfection conditions of the manufacturing facilities and tools good?		O		08:34 am Defective cleaning of fresh work floor Verified by: Gu, Dong-wu	08:45 am Start work after cleaning fresh floor Verified by: Gu, Dong-wu	
Are pallets and boxes organized and separated from walls in clean conditions?		O				
Are there no contaminants in the ceiling and inner walls of the work establishment, and are floors and drain in clean conditions free from ponding?		X				
Are rubber gloves, aprons, etc. provided at the designated location and in good condition?		O				
Are cleaning tools organized in the designated place?		O				
Does the temperature in the workplace comply with the standards?		143				
Is there a certain amount (more than 2/3) of disinfection sprayer in the workplace?		O				

- Corrective Action

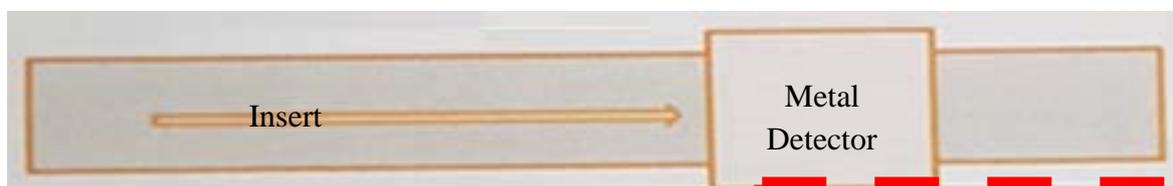
O: Good X: Poor	Daily Sanitation Inspection Log		Authorization	Prepared by	Reviewed by	Approved by
				10/30	10/30	10/31
			Inspection date: 10/30/2017, Monday			
Checklists	Time	Note	Non-compliance	Corrective action		
Inspection time	08:20					
Are employees free from sicknesses and trauma, and are they in good health?	O					
Are the status of wearing hygiene clothing, hat, shoes, and mask and their cleanliness appropriate?	O					
Are personal hygiene rules related to clean hair, no jewelry, etc. adhered and suitable?	O					
Are entrance regulations on entering the workplace adhere to?	O					
Inspection time	08:45					
Are the cleaning and disinfection conditions of the manufacturing facilities and tools good?	O					
Are pallets and boxes organized and separated from walls in clean conditions?	X					
Are there no contaminants in the ceiling and inner walls of the work establishment, and are floors and drain in clean conditions free from ponding?	O					
Are rubber gloves, aprons, etc. provided at the designated location and in good condition?	O					
Are cleaning tools organized in the designated place?	O					
Does the temperature in the workplace comply with the standards?	O					
Is there a certain amount (more than 2/3) of disinfection sprayer in the workplace?	O					
			08:45 am Tray for secondary materials is left on the floor of the fresh work establishment. Verified by: Gu, Dong-wu	08:45 am Dismantle the parting tray on the floor of the fresh workshop and transfer it to the workbench. Additional hygiene education for separation management in future hygiene education. Verified by: Driving Right		

Reference 16

- Finding

Metal Detector Management Log (CCP-1P)	Authorization	Prepared by	Reviewed by	Approved by
		/	/	/

Inspection date: 8/29/2017		Inspector: CCP Monitoring personnel
Description of process	Process of verifying whether metal pieces are mixed by passing through the cooked chicken soup products	
Hazards	Concern for mixture of metal pieces due to the malfunctioning of a metal detector	
Critical limits	(1) Products containing metallic foreign matters cannot be put into the next process. (2) Metallic pieces with Fe: 2.0mm or more, SUS: 4.0.0mm or more are not present.	
Methods	Test metal piece is put on top of the cooked chicken, which is then placed at the center of the conveyor belt and passed through to verify whether it stops normally ringing the buzzer normally.	
Frequency	Executed before work time / Every 2 hours during work / At the end of the metal detector work	

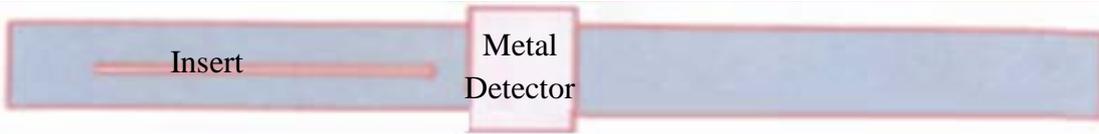


No	Inspection time	Fe inspection result	SUS inspection result	Non-compliance
1	8:45	Pass	Pass	
2	10:45	Pass	Pass	
3	11:00	Pass	Pass	
4	13:30	Pass	Pass	
5	14:30	Pass	Pass	
6				

- Corrective Action

Metal Detector Management Log (CCP-1P)	Authorization	Prepared by	Reviewed by	Approved by
	/	/	/	/

Inspection date: 9/19/2017	Inspector: CCP Monitoring personnel
Description of process	Process of verifying whether metal pieces are mixed by passing through the cooked chicken soup products
Hazards	Concern for mixture of metal pieces due to the malfunctioning of a metal detector
Critical limits	(1) Products containing metallic foreign matters cannot be put into the next process. (2) Metallic pieces with Fe: 2.0mm or more, SUS: 4.0.0mm or more are not present.
Methods	Test metal piece is put on top of the cooked chicken, which is then placed at the center of the conveyor belt and passed through to verify whether it stops normally ringing the buzzer normally.
Frequency	Executed before work time / Every 2 hours during work / At the end of the metal detector work



No	Time	Fe inspection result	SUS inspection result	Inspector	Checklists	Confirmation time	Signature	Non-compliance
1	9:18	Pass	Pass	Kwon	Operation status before starting	9:19	Signature	
2	9:45	Pass	Pass	Kwon	Intermediate inspection (strength, operation status)	9:45	Signature	
3	10:10	Pass	Pass	Kwon	Operation status at the 1st end	10:20	Signature	
4	13:10	Pass	Pass	Kwon	Before starting in the afternoon (operation status)	13:20	Signature	
5	13:40	Pass	Pass	Kwon	Intermediate inspection (operation status, strength)	13:41	Signature	
6	14:03	Pass	Pass	Kwon	Inspection at the end (operation status, strength)	14:30	Signature	
7								
8								

Reference 17

- Finding

Retort Management Log CCP-2B							Prepared by	Reviewed by	Approved by
8/29/2017	Prepared by			CCP monitoring personnel	Frequency	At every retort operation			
Concern for microbial growth due to the insufficient temperature and time resulting from the malfunctioning of retort machine									
(1) Treat equivalently as sterilizing at 120°C in the center part of the product for more than 4 minutes.									
(2) Sterilization during the retort process was set at a temperature of 121+/-3°C, a pressure of 2.1+/-0.2 Bar, and a time of 50 minutes.									
(1) Verify the set sterilization temperature and time.									
(2) Record sterilization conditions such as start time and end time of sterilization, and verify and attach the status of conformity to temperature, pressure and time standards after printing out the recording paper.									

Product name and quantity	Control standards				Operation start time	Time at which the required temperature is reached	Interim monitoring				Sterilization end time	Operation end time	Verification of abnormalities	Note
	Temperature (°C)	Process time (min)	Chlorine residue	Pressure (bar)			Temperature (°C)	Process time (min)	Chlorine residue	Pressure (bar)				
Checks before operation														
Blue 1296	121	50		2.1	9:45	10:05	121	10		2.1	10:55	11:25	No	
Blue 1300	121	50		2.1	11:50	12:10	121	10		2.1	13:00	13:30	No	
Blue 1296	121	50		2.1	14:30	14:50	121	10		2.1	15:40	16:10	No	

- Corrective Action

Retort Management Log CCP-2B						Prepared by	Reviewed by	Approved by
Production date	9/19/2017	Prepared by	Kim, Jinwoo	Frequency	At every retort operation			
Hazards	Concern for microbial growth due to the insufficient temperature and time resulting from the malfunctioning of retort machine							
Critical limits	(1) Treat equivalently as sterilizing at 120°C in the center part of the product for more than 4 minutes. (2) Sterilization during the retort process was set at a temperature of $\geq 121 - \leq 126^\circ\text{C}$, a pressure of 2.1 ± 0.2 Bar, and a time of 50 minutes.							
Test methods	(1) Verify the set sterilization temperature and time. (2) Record sterilization conditions such as start time and end time of sterilization, and verify and attach the status of conformity to temperature, pressure and time standards after printing out the recording paper.							

Lot No.	Product name and quantity	Operation start				Sterilization			Chilling			Internal temp.	Steri. Time (min)	Temp. time	Quan.	Inspector	Time	Checks	Signature
		Tank pressure	Tank temp.	Start time	Input time	Pre-sterilization	Start time	End time	Start time	End time	Temp.								
	Orange Samgyetang	/	27.9	10:23	10:23	10:25	10:47	11:38	11:40	12:00	43.5	124.1	50	1 h 43 m	1,200	Kim	11:11	Temp 124.1. and Pressure 2.1	
	Orange Samgyetang	/	38.3	14:10	14:10	14:12	14:32	15:24	15:25	15:45	44.6	124.1	50	1 h 43 m	1,031	Kim	15:03	Temp 124.1. and Pressure 2.1	

Deviations from the control standards (including problems of facilities)	Corrective actions and results	Inspector	Confirm/signature	Attach the sterilization temperature recording paper on upper part of the rear side.