



## PLANNING FOR THE DEVELOPMENT OF SAFE FOOD PRODUCTS

Normatov Islomii Ilhombek ugli

Assistant Lecturer in Metrology, Standardization and  
Product Quality Management Department

Andijan Machine-Building Institute, Andijan, Uzbekistan  
1@gmail.islombeknormatov.com

Niyazov Shavkat Khasanovich

Student Metrology, Standardization and Product Quality Management  
Andijan Machine-Building Institute, Andijan, Uzbekistan  
sinister.1302@gmail.com

Isroilov Asadbek Ilhomjon ugli

Student About ground vehicles and their operation.  
Fergana Polytechnic Institute, Fergana, Uzbekistan  
602@gmail.isroilovasadbek.com

### Abstract:

High-quality and safe organization, implementation and improvement of the processes of production, transportation, delivery, storage and disposal of products in the food chain are important and strategic in today's rapidly developing society. For this, in accordance with the established requirements, the requirements of the food safety management system ISO 22000 based on the principles of HACCP are implemented. This article focuses on the development of a HACCP system based on the seven HACCP principles and a critical review of several existing models. Four Important Control Points (CCPs) were identified, and a HACCP plan, supplemented by appropriate software, was presented to address the identified risks and therefore to provide consumers with high-quality and safe products.

**Tags:** HACCP, Critical Checkpoint (CCP),

### Introduction

Safe product planning is one of the key elements of the international food safety management system ISO 22000. Currently, in the Republic of Uzbekistan, DST / ISO 22000: 2019 "Requirements for organizations participating in the food production chain - food safety management systems".





This standard establishes requirements for a quality and food safety management system based on the principles of HACCP. The HACCP system is a well-defined set of organizational structure, documentation, production processes and resources that allows you to achieve a certain result necessary for the implementation of the developed concept.

In this short study, we will consider the practice of planning the quality and safety of poultry and egg products produced by Andijan Broiler LLC. The documents required for the implementation of the mandatory elements of the development and implementation of a management system in accordance with the requirements of ISO 22000 should be completed and developed. This allows you to identify, assess, control and prevent risks necessary for product safety.

The goal of the quality abattoir is to provide its customers with high-quality safe products by implementing a HACCP system that provides a safe working environment free of all significant potential contaminants. To this end, it establishes and maintains strong relationships with farmers, staff, district administrations and other business partners in accordance with national and international business rules.

In developing the HACCP plan for microbiological criteria for food, five initial steps and seven principles were identified.

## **HACCP PLAN**

The HACCP control chart (Table 2) provides an orderly list of risks and provides all the CCP documents that are the most important documents of the HACCP plan. When specifying any stage as a CCP, the production process is given special attention and control. Table II lists all potential hazards and classifications of chemical (C), physical (P) or biological (B) at the stages of the process at which they may occur, as well as the number of CCTs that need to be clarified and documented." Shown. The following CCPS have been identified: The HACCP control schedule additionally contains significant restrictions, monitoring procedures, monitoring frequency, preventive measures and corrective actions for all listed hazards. Finally, it provides documented records, responsible persons and verification procedures. The CCP has been detected in raw materials, especially when chicken meat arrives, which may be contaminated with antibiotic and pesticide residues, and also at the stages of the technological process. Another CCP has been identified as the presence of toxic chemicals in packaging materials. The stages of the receiving, final washing and display/dispatch process are recorded as CCPs. The Codex provides guidance on the importance of monitoring and documentation procedures in the HACCP plan for meat and meat products.





Based on this study, the HACCP plan describes the different procedures for monitoring different risks in the CCP. In reviewing monitoring procedures, attention was paid to methods that can be implemented and are suitable for use online. All three CCTs had monitoring procedures. CCP1 has been identified when ingested and as a residue of the target risk of antibiotics. This is based on the experience of veterinarians and traders who reported that uninformed farmers handed over processed chicken meat and medicines for slaughter before the expiration date. In many studies, maximum residual limits (MCOs) have been cited by many companies as critical limits. However, in such circumstances, routine analysis of THE MSO will not be sufficient due to the expiration date. In many studies, however, routine analysis of the ISO will not be sufficient. Cost. Instead, an appropriate form of examination with a certificate of the responsible veterinarian was adopted. The critical limit was that the acceptance of any chicken without a certificate was zero. The control procedures were defined as verification of the certificate of conformity. Verification of the effectiveness of this CCP1 includes a quarterly inspection of the ISO and regular verification of certificates of conformity before shipment.

The second important control point (CCP2) was discovered during the final stage of washing. The responsibility for the safety of the product lies with the manufacturer, not the consumer of this product. Since the chicken is not subjected to heat treatment in the slaughterhouse, final washing is the only way to reduce or eliminate pathogens that may be present on surfaces and in the product. Critical boundary for pathogens, especially *E. coli*, in chicken meat is not defined. Monitoring of the concentration of residual chlorine in the water for final washing was provided by a control system. Verification of the effectiveness of this process was based on the verification of the records of the final washing water and the regular use of chlorine test strips.

A third critical control point (CCP3) has been identified as potentially toxic chemicals in the packaging material. This is a very important step, because any toxicity will fall on the consumer plate. It is best to pre-sort the packaging material suppliers to make sure that all packaging materials used will not be contaminated. Thus, only those who can draw up acceptable Material Safety Data Sheets (PSBs) should be responsible for delivery. The threat can be properly tracked and mitigated by tracking each shipment only to ensure delivery has passed pre-screening. The continuity of this is verified quarterly by auditing vendors and verifying all relevant records.

CCP4 was discovered during the laying out and shipment of butchered carcasses. Literature and experience show that for chicken products there is a possibility of mutual infection with pathogens at temperatures above 4 ° C.





To control the temperature, it was necessary to install a thermometer and a temperature control device. The effectiveness of this CCP was to be verified by daily thermometer calibration, review of all temperature logs before shipment, and reading the temperature of the product once per batch. Monitoring the implementation of the HACCP program is critical to the success of HACCP, and regulators should play a similar role.

Таблица II: План HACCP для местного цыпленка, перерабатываемого на Андижанской бройлерной ферме

ККТ №	Стадия процесса	Опасность	Критические границы	Процедура мониторинга	Частота	Профилактические меры	Корректирующее действие	Запись	Ответственный человек	Процедуры подтверждения
ККТ 1	Принятие	Остатки антибиотиков	Цыплята не будут отправлены в течение рекомендованных дней	Проверьте сертификат соответствия на каждую партию, подписанный уполномоченным ветеринарным врачом.	Каждая доставка	Задержание стада в ожидании согласия уполномоченного ветеринара	Если сертификат соответствия не выдан, партию забрывать	Сертификат соответствия записи	Ответственный сотрудник по обеспечению качества	Проверьте записи сертификатов соответствия / получайте ежеквартальные отчеты MRL от аккредитованных лабораторий
ККТ 2	Финальная стирка	Патогены (E.coli, Salmonella, Campylobacter)	50 частей на миллион остаточного хлора	Измерение pH и остатков хлора с помощью линий	После каждой партии/цыпленка	Держите тушу	Перезагрузите хлоратор и возьмите образцы, чтобы убедиться, что он полностью работоспособен	Окончательная мойка / примечания по качеству туши	Ответственный сотрудник по обеспечению качества	Проверьте записи о качестве окончательной промывочной воды / ежедневную проверку остаточного хлора / титрование и получайте ежеквартальные отчеты об анализе хлора
ККТ 3	Упаковочный материал	Токсические вещества	Некачественный продукт не используется	Аудит поставщиков и гарантия качества	Каждая доставка	Документ, подтверждающий проверку представленных квалифицированных упаковочных материалов и MSDS; список утвержденных поставщиков и согласование технических условий	Сменить поставщика или марку несоответствующего материала	Записи о поступлении сырья	Ответственный сотрудник по обеспечению качества	Проверьте список квалифицированных поставщиков, проводите регулярные аудиты поставщиков и проверьте паспорта безопасности для каждого материала
ККТ 4	Показать / отправить	Патогены (E.coli, Salmonella, Campylobacter)	≤4°C в течение 7 дней	Журнал калиброванной термометрии и температурного кодирования	В течение 4 часов после обработки внутренняя температура достигает 4°C.	Остановите продукт и установите правильную температуру на желаемое время	Заморозьте продукт и наблюдайте, чтобы внутренняя температура достигла 4 °C.	Диспетчерские записи / Журналы и записи температуры конечного продукта	Ответственный сотрудник по обеспечению качества	Проверьте журналы температуры ежедневно / перед отправкой. Ежедневно калибруйте термометр. Проверьте и записывайте температуру один раз в каждой партии

ККТ - Критическая Контрольная Точка

ОК/К - Обеспечение Качества / Контроль

ПБМ - Паспорта Безопасности Материалов

МПО - Максимальные Пределы Остатка

## CONCLUSION

The implementation of the HACCP system is still the best way to ensure the safety of meat and poultry. This study revealed an important need for the existence and implementation of GMP and Standard Sanitary Operating Procedures (HACCP) and, consequently, proposals for the improvement of buildings to support these key provisions of the HACCP plan. The study was conducted to develop a HACCP plan for the building's process conditions.





The product description is intended to alert consumers to the nature of the products and therefore the potential risks in the final product and how to eliminate them to prevent them from occurring. Potential risks were presented in the raw materials, both at the process stages and with the appropriate controls. The decision tree was then used to Identification of the CCP. Finally, a HACCP control schedule was developed, based on all HACCP principles for the processing of local chicken in a poultry mill. Four CCTs were identified: delivery and receipt of raw materials, delivery of packaging materials, final washing of carcasses and storage of carcasses at low temperatures during display and shipment. Compliance with and implementation of the above will undoubtedly increase the safety of local chicken.

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