SCI-CONF.COM.UA

SCIENTIFIC ACHIEVEMENTS OF CONTEMPORARY SOCIETY

PROCEEDINGS OF IX INTERNATIONAL SCIENTIFIC AND PRACTICAL CONFERENCE APRIL 4-6, 2025

LONDON
2025

SCIENTIFIC ACHIEVEMENTS OF CONTEMPORARY SOCIETY

Proceedings of IX International Scientific and Practical Conference

London, United Kingdom

4-6 April 2025

London, United Kingdom

2025

UDC 001.1

The 9th International scientific and practical conference "Scientific achievements of contemporary society" (April 4-6, 2025) Cognum Publishing House, London, United Kingdom. 2025. 537 p.

ISBN 978-92-9472-192-1

The recommended citation for this publication is:
Ivanov I. Analysis of the phaunistic composition of Ukraine // Scientific achievements of contemporary society. Proceedings of the 9th International scientific and practical conference. Cognum Publishing House. London, United Kingdom. 2025. Pp. 21-27. URL: https://sci-conf.com.ua/ix-mizhnarodna-naukovo-praktichna-konferentsiya-scientific-achievements-of-contemporary-society-4-6-04-2025-london-velikobritaniya-arhiv/.

Editor
Komarytskyy M.L.
Ph.D. in Economics, Associate Professor

Collection of scientific articles published is the scientific and practical publication, which contains scientific articles of students, graduate students, Candidates and Doctors of Sciences, research workers and practitioners from Europe, Ukraine and from neighbouring countries and beyond. The articles contain the study, reflecting the processes and changes in the structure of modern science. The collection of scientific articles is for students, postgraduate students, doctoral candidates, teachers, researchers, practitioners and people interested in the trends of modern science development.

e-mail: london@sci-conf.com.ua

homepage: *https://sci-conf.com.ua*

VETERINARY SCIENCES

UDC 619:614.31:637.521

MICROBIOLOGICAL CONTROL OF RABBIT MEAT PRODUCTION DURING STORAGE AND SALES

Bogatko Aliona
Doctor of Philosophy PhD, Assistant of the Department
of Epizootology and Infectious Diseases
Mazur Tetiana
PhD of Veterinary Sciences, Associate Professor,
Associate Professor of the Department of
General Ecology and Ecotrophology
Bogatko Nadiya
Doctor of Veterinary Sciences, Professor,
Head of the Department of Veterinary and Sanitary
Examination and Laboratory Diagnostics of IPNKSVM
Tsarenko Taras
PhD of Veterinary Sciences, Associate Professor,
Associate Professor of the Department
of Epizootology and Infectious Diseases
Shevchenko Maksym
Doctor of Philosophy PhD, Assistant of the Department
of Epizootology and Infectious Diseases
Panteleienko Olga
Doctor of Philosophy PhD, Assistant of the Department
of Epizootology and Infectious Diseases
Bila Tserkva National Agrarian University, Bila Tserkva, Ukraine

Abstract. Risk-based control at production facilities during storage and sale of rabbit meat is carried out by leading veterinary doctors by determining the content of KMAFAnM in rabbit meat at different temperature regimes and determining the hygienic criterion of the technological process for the production of rabbit meat. When storing rabbit meat at a temperature of (–2…–3) ºC, the content of KMAFAnM

was established in the amount of (1.23±0.12)x10^2 CFU/g, which is 1.2 times ($p<0.001$) less compared to the indicators for the sale of rabbit meat at a temperature of (0…6) ºC. The highest hygienic criteria of the technological process for rabbit meat have been established in terms of the content of colonies of aerobic microorganisms and bacteria of the genus Enterobacteriaceae during sale in cold rooms at a temperature of (0…6)ºC - with a daily average logarithm log: m= from 4.2 to 1.5 and M= from 5.3 to 3.2, as well as for rabbit meat during storage in cold rooms at a temperature of (–2…–3)ºC - with a daily average logarithm log: m= from 2.7 to 1.2 and M= from 4.2 to 1.6

Key words: rabbit meat, safety, quality, microbiological control, hygiene criteria, technological process.

Introduction. One of the prerequisites for the implementation of the system of control of the safety of rabbit meat production at control points (HACCP) is microbiological testing of rabbit meat during storage and sale, which provides confidence that the meat is safe and of high quality for ordinary consumers. Also, in the production of rabbit meat and its circulation in modern conditions, the most demanded, in addition to GVP and GMP, is good hygienic practice – GHP [1, p. 8].

Veterinary medicine specialists, guided by EU Regulation No. 2073/2005, must establish hygienic criteria for the technological process at the stage after processing rabbit carcasses before placing them in cold storage at rabbit meat production facilities, and during sale to consumers [2, p. 19].

Microbiological control of rabbit meat safety and quality is carried out in order to detect violations of sanitary and hygienic requirements during the production, storage and circulation of rabbit meat at facilities for its production and circulation - wholesale bases, agro-food markets, supermarkets, etc. [3, p. 5; 4, p. 8].

Therefore, it is currently relevant to carry out microbiological control of rabbit meat during its production and circulation in order to avoid meat spoilage.

The aim of the work was to test microbiological indicators of rabbit meat to determine the content of KMAFAnM and hygienic criteria of the technological

process during storage and sale of meat products.

Materials and methods. The material for the study was 24 rabbit meat samples, which were stored at wholesale bases and sold in stores and supermarkets in the Kyiv region. The content of KMAFAnM was determined by sowing the studied sample of rabbit meat on nutrient media at temperatures not lower than (34–37) ºC and subsequent calculation of their content [5, p. 13]. Hygienic criteria of the technological process for rabbit meat for storage and sale at appropriate temperature regimes in refrigeration chambers – (–2…–3) ºC and (0…6) ºC by calculating the daily average logarithm (log) of meat according to the methodology of EU Regulation No. 2073/2005 [2, p. 21].

Results and discussion. Rabbit meat, which was stored at capacity during storage at a temperature in refrigerators (–2…–3) ºC and sale at a temperature of (0…6) ºC, had organoleptic indicators of fresh meat: on the surface of the rabbit carcass there is a dry crust of drying, the smell is specific to this species of animal, without foreign odors, the consistency is elastic, the color is pale pink; internal fat is white, without foreign odors; after testing the cooking, the rabbit meat corresponded to the fresh grade: the broth is transparent, with a pleasant smell, on the surface of the broth there are fat balls of the same size; the cooked meat is divided into muscle bundles, with a specific pleasant taste and smell. In the future, microbiological indicators of rabbit meat were determined. The results of tests of the content of KMAFAnM in rabbit meat during storage and sale at appropriate temperature regimes are presented (table 1).

Table 1

Content of KMAFAnM in rabbit meat during storage and sale, CFU/g, M±m, n=24

Type of meat	Number of colonies of mesophilic aerobic and facultative anaerobic microorganisms, CFU/g
Cold rooms at rabbit meat production facilities during storage at temperatures (–2…–3) ºC	
Rabbit meat	$(1,23\pm0,04)x10^2$
Refrigeration chambers at rabbit meat sales facilities at temperatures (0…6) º C	
Rabbit meat	$(1,03\pm0,02)x10^2$***

Note: *** – $p<0,001$

The results of the table 1 show that when storing rabbit meat at a temperature of (–2…–3) °C, the content of KMAFAnM was determined to be (1.23±0.12)x10^2 CFU/g, which is 1.2 times significantly ($p<0.001$) less compared to the indicators when selling rabbit meat at a temperature of (0…6) °C – (1.03±0.02)x10^2 CFU/g.

We present the results of the hygienic criteria of the technological process for rabbit meat during storage and sale at appropriate temperature regimes in refrigeration chambers – (–2…–3) ºC and (0…6) ºC by calculating the daily average logarithm (log) in rabbit meat during storage and sale at appropriate temperature regimes (table 2).

Table 2

Hygienic criteria of the technological process for rabbit meat for storage and sale at appropriate temperature regimes, CFU/cm^2, M±m, n=24

Type of meat	Number of colonies of aerobic microorganisms		*Enterobacteriaceae*		*Salmonella*	
	Daily average logarithm (log), CFU/cm^2					
	m	M	m	M	m	M
Cold rooms at rabbit meat production facilities during storage at temperatures (–2…–3) ºC						
Rabbit meat	2,7	4,2	1,2	1,6	–	–
Refrigeration chambers at rabbit meat sales facilities at temperatures (0…6) º C						
Rabbit meat	4,2	5,3	1,5	3,2	–	–

From Table 2 it was established that the highest hygienic criteria of the technological process for rabbit meat by the content of colonies of aerobic microorganisms and bacteria of the genus *Enterobacteriacea* during sale in refrigerated chambers at a temperature of (0…6) ºC were at the daily average logarithm log: m= from 4.2 to 1.5 and M= from 5.3 to 3.2; for rabbit meat during storage in refrigerated chambers at a temperature of (–2…–3) ºC – at the daily average logarithm log: m= from 2.7 to 1.2 and M= from 4.2 to 1.6. Bacteria of the genus *Salmonella* were not detected under different temperature conditions of storage and sale of rabbit meat.

Conclusions. For proper risk-based control, veterinary medicine specialists should be guided by laboratory tests of the content of KMAFAnM in rabbit meat during storage and sale in refrigerated chambers, respectively at temperatures of

(-2…–3) °C and (0…6) °C. It is important for the safety and quality of rabbit meat to establish hygienic criteria for the technological process during storage and sale of products in refrigerated chambers at the above temperature regimes.

REFERENCES

1. Hulebak K.L., & Schlosser W.J. (2012). Hazard analysis andcritical control point (*HACCP*) history and conceptual over view. *Risk analysis,* 22 (3), P. 547–552. https://doi.org/10.1111/0272-4332.000383.

2. Regulation (EC) No 2073/2005 of the European Parliament and of the Council of 15 November 2005 on microbiological criteria applicable to foodstuffs. https://online.budstandart.com/ua/catalog/doc-page.html?id_doc=95923.

3. Castrica M., Contò M., Fehri N.E., Curone G., Balzaretti C.M., Andoni E., Quattrone A., Vigo D., Agradi S., Menchetti L., Barbato O., Miraglia D., Brecchia G., Failla S. (2025). Quality and microbial changes in omega-3-enriched rabbit meat packaged with an active absorbent pad in MAP. *Foods*. 14(3):404. doi: 10.3390/foods14030404.

4. Wiśniewski P., Trymers M., Chajęcka-Wierzchowska W., Tkacz K., Zadernowska A., Modzelewska-Kapituła M. (2024). Antimicrobial resistance in the context of animal production and meat products in Poland-A Critical Review and Future Perspective. *Pathogens.* 13(12):1123. doi: 10.3390/pathogens13121123.

5. DSTU 8381:2015. Meat and meat products. Organization and methods of microbiological research. [Valid from 2017-07-01]. Kyiv: State Enterprise "UkrNDNTs", 2017. 45 p.