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IDENTIFICATION OF POULTRY MEAT BY ESTABLISHING ITS DEGREE OF FRESHNESS

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Implementation of risk-based control over the establishment of criteria for safety and quality of poultry meat during its production and circulation in accordance with international requirements for the implementation of traceability systems and HACCP in processing plants of Ukraine is relevant globally [1, p. 124]. The State Inspector of Veterinary Medicine must inspect the safety of poultry meat during production, storage, transportation and sale using simple tests. [2, p. 45; 3, p. 837].

At present, there is a problem of establishing the identification of poultry meat at production and circulation facilities for the establishment of safety and quality indicators [4, p. 17; 5, p. 981].

The **purpose** of the work is to establish the identification of poultry meat by the degree of its freshness by photometric method for inspection of this product.

Research methods. For the samples, 36 samples of poultry meat were taken at its production and storage facilities.

Identification of the degree of freshness of poultry meat was performed by photometric method using filtered aqueous extract of poultry meat in a ratio of 1: 2 in the amount of 2.5−3.0 cm^3 with the addition of 0.9−1.0 cm^3 of Nessler's reagent and keeping for 3–4 minutes and subsequent centrifugation for 5–6 minutes at 1000 revolutions for a minute. And by measuring the optical density of the color intensity from olive-yellow to yellow-orange color of the hood in Bel (B) in a cuvette with a light absorption thickness of 1.0 cm on a photoelectric photometer at a wavelength of 445±0.05 nm (blue filter) when used in quality of the control sample of distilled water for establishment of safety and quality of poultry

meat that will provide establishment of degree of freshness for storage and sale of poultry meat [6, p. 2].

Results of the research. Studies have identified poultry meat by the degree of freshness in determining the optical density of the color intensity of the meat-water extract and Nessler's reagent for 5, 6−7, 8 days of storage at a temperature of 0−4 °C.

Studies have shown that the optical density of the intensity of the olive-yellow color of the extract from fresh poultry meat for 5 days at a temperature of (0−4 °C) was: in the breast − 0.898±0.060 Bel ($p \leq 0.01$), in the thigh − 1,057 ± 0,020 Bel; poultry meat of dubious degree for 6−7 days at a temperature (0−4 °C): in the breast − 1,260±0,004 Bel ($p \leq 0,001$), in the thigh − 1,318±0,006 Bel; lean poultry meat for 8 days at a temperature (0−4 °C) − in the breast − 2,265±0,020 Bel ($p \leq 0,001$), in the thigh − 2,432±0,012 Bel.

The reliability of the optical density of the intensity of the color of the extract of poultry meat with Nesler's reagent by photometric method in determining the degree of its freshness was 99.9%. Also more reliable data − in 99.5−99.9 % were obtained in comparison with the results of studies of the microscopic method of determining the degree of freshness of poultry meat and in 99.3−99.8 % of the results of studies to determine the content of amino-ammonia nitrogen in poultry meat [7, p. 118].

In addition, it should be noted that the method is express, easy to perform, and its results give specific quantitative indicators on the optical density of color intensity from olive-yellow to yellow-orange color of poultry extract with Nesler's reagent by photometric method.

The developed photometric method is offered by us as a quantitative method for determining the degree of freshness of poultry meat by optical density of color intensity of meat and water extract, along with other methods for determining safety and quality (organoleptics, microscopic method, determination of amino-ammonia nitrogen, hydrogen sulfide, ammonia and ammonium salts, determination of acid and peroxide numbers of poultry fat, determination of protein breakdown products, pH value) [7, p. 123].

The method has an advantage over existing methods for determining the safety and quality of poultry meat in that the intensity of color from olive yellow to yellow-orange color of poultry extract and Nesler's reagent can be obtained optical density results that have a specific, reliable quantitative value for establishing the degree of freshness of poultry meat during storage and sale.

Conclusions: 1. Identification of poultry meat to establish the degree of freshness in the production and sale by market operators must be determined by photometric method by color intensity and optical density, which has a reliability of 99.9 %.

2. For the purpose of objective veterinary and sanitary inspection of poultry meat for the establishment of safety indicators by veterinary specialists, we recommend the use of the developed express method.

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