

CRITERIA FOR ASSESSING THE QUALITY AND SAFETY OF BEEF IN THE AGRO-INDUSTRIAL MARKET

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Beef samples of *NOR* and *PSE* obtained from cattle carcasses from different enterprises of the Kyiv region on the agro-industrial markets of Bila Tserkva (no. 1, no. 2 and Indoor market), improvement and development of express methods for the determination of beef of *NOR* quality and *PSE*.

Organoleptic, biochemical, physico-chemical, microscopic, microbiological, morphological, biometric (GOST 7269–79 and GOST 23392–2016).

Beef produced from quality beef *NOR* was registered at 85.2 %, quality of *PSE* — 11.4 %, *DFD* — 19.6 %. Sufficiently often (31.0 %) is found beef, which requires special treatment to improve its quality. The pH of beef quality of *PSE*, *DFD* in one hour after the slaughter of cattle was 5.11 ± 0.14 and 6.21 ± 0.17 , respectively, in comparison with the *NOR* quality (6.02 ± 0.12). *PSE* and *DFD* had worse organoleptic characteristics, lower biological value compared to *NOR* beef. The relative biological value of beef *PSE* was, on average, 67.3 %, and beef *DFD* — 62.4 %. The water content of *PSE* beef was 1.07 times higher than that of *NOR* beef and 1.2 times less in *DFD* beef. The content of dry matter was the lowest in beef quality of *PSE* — 20.14 %, which is 21.2 % lower, compared to beef *NOR* values. The content of ash in beef of all categories of quality ranged from 1.03 to 1.19 %. The protein content was the highest in *DFD* quality beef, which is 1.5 times more than *NOR* quality beef. The fat content was the lowest in *PSE* quality beef, which is 0.7 times less than that of *NOR* quality beef. The beekeeping capacity of the beef was the lowest quality *PSE* — 52.27 ± 2.31 %, which is 1.2 times less, and in the beef quality *DFD* — 0.7 times more than in the quality of *NOR*. The content of glycogen was lowest in beef-grade *DFD* — 127.65 mg%, which is 54.9 % less, and in beef quality *PSE* — lower by 7.13 %, compared to *NOR* indicators. The content of lactic acid was the largest in beef *PSE* quality — 1.23 times, and in beef quality *DFD* — 3.4 times less, compared with *NOR* indicators. The content of glucose was higher in beef-quality *PSE* — 1.3 times, and in *DFD* — 1.6 times less, compared to *NOR* indicators of quality. The content of tryptophan in the beef quality of *PSE* and *DFD* was less than 1.08–1.05 times compared to *NOR* beef quality. The content of oxyproline in beef *PSE* and *DFD* was greater by 1.05–1.1 times compared to *NOR* beef. The protein-quality index was lower in beef quality *PSE*. An express photometric method of improving the determination of the total content of pigments in the beef of *NOR*, *PSE*, *DFD* quality, which was 98.3 % probable compared to pH. The established optical density indicators for the total content of pigments in beef of *NOR* quality range: 8.43–10.17 B, *PSE* 1.68–2.41 B and *DFD* 16.22–18.89 B.

For the determination of *NOR*, *PSE*, *DFD* quality beef, in addition to the existing complex of organoleptic, biochemical studies, it is necessary to use morphological and photometric methods to determine the total content of pigments and color intensity applied for under no. 03329, u 2007 03330 on the issuance of Ukraine's Declarative Patents for invention.

Keywords: BEEF, QUALITY *NOR*, *PSE*, *DFD*, RESEARCH COMPLEX, PIGMENT CONTENT AND COLOR INTENSITY