

# ASSESSMENT OF THE QUALITY OF BULLS SPERM IN CONTEXT OF MAINTAINING POPULATION OF LEBEDINIAN BREED

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In recent years, the gene pool of domestic breeds of cattle is significantly unreasonably reduced. As a result of intensive use of specialized imported breeds there were created new breeds, intra-breed types and large amounts of local animals. At the same time, some local breed was on the verge of extinction. One of the methods of using and preserving the gene pool of local, small and indigenous breeds of animals is the formation of banks for long-term storage of biological material. Its main function is the systematic replenishment of samples of biological material, a comprehensive assessment of its quality.

The article is aimed at laboratory assessment of available frozen sperm of bulls of Lebedinian breed on indicators of reproductive ability to forecast the possibility of using it in activities for conservation of local Lebedinian breed of cattle. The shelf life of the studied sperm doses ranging from 25 to 40 years.

In the studies the crioconservation sperm of 12 bulls of Lebedinian breed and hybrids with Swiss breed, which is stored in Sumy State Selection Centre, was used. The study of qualitative and quantitative characteristics of bulls sperm was carried out according to the generally accepted methodology in the production laboratory "Ukrainian genetic company". The principle of operation is based on video processing.

It was found that the average number of sperms in doses of long-term storage of bulls of Lebedinian breed is  $1478.3 \pm 467.6$  million at a concentration of  $5917.6$  million / ml. Of the total number of sperm 52 % were mobile. In General, the estimated sperm is recognized as suitable for insemination of cows and heifers.

Differentiation of separate indicators of quality of sperm depending on term of its storage and an origin of manufacturing bulls is revealed. The number of hyperactive cells at doses of sperm during storage period up to 35 years was higher by 217%, and their concentration is larger by 216% compared to doses of sperm that had been stored for over 35 years. The highest content of hyperactive sperm were observed in doses of sperm obtained from bulls with conditional breed for Lebedinian breed – less than 75

% . The greatest number of fixed sperm differed doses of sperm, which persisted until 35 years and they accounted for 30 % of all sperm. In the structure of sperm fixed sperm were 44.4% (from bulls of Lebedinian breed), 25,8 % (from bulls with conditional breed more than 75 %), 28.1% (from bulls of the conditional breed less than 75 % of Lebedinian breed). The temporal correlation between the individual parameters characterizing the parameters of sperm movement was found.

**Keywords:** SPERM, BULL, EVALUATION, BREED, CONCENTRATION OF SPERMATOZOIDS, COMPUTER ANALYSIS OF SPERM, MIOTILITY OF SPERMATOZOIDS.