

An experiment was carried out on the SSF experimental training farm «Tulinskoye» of Novosibirsk State Agrarian University. Large White and Kemerovo pigs were the objects to examine. The animals were selected for the principle of analogues. Blood was taken from aural vein. The content of cystin in blood serum and that of hemoglobin in blood were identified in the pigs. Blood biochemical indexes were examined in the pigs aged 6 months. The content of SH-groups was examined in mitochondria and supernatant of liver in the pigs. Tissue samples were taken from 6 animals of each group during control slaughtering. Mitochondria were isolated out of 10% homogenate in the 0,25 M solution of sucrose with the method of differential centrifuging. The mitochondrial fraction purity was tested by contrasting phases. To analyze, there was taken the number of mitochondria corresponding to 0,1–0,2 mg of mitochondrial protein. The protein was determined with bull serum albumin as a standard.

Statistical processing of the data was done with the package of applied software Statistica 6 and Excel.

The experiment identified that the concentration of general SH-groups in the liver mitochondria of Kemerovo breed increased by 12,77% ( $p < 0,01$ ) and that of hemoglobin went up as well in comparison with the gilts of Large White breed. This testifies to the protecting effect of the sulfhydryl groups.

The work was submitted to international scientific conference «Basic and applied problems meditsyny and biology», UAE (Dubai), 16–23 October 2011, came to the editorial office 19.10.2011.

#### THE CONTENT OF THIOLIC GROUPS IN MITOCHONDRIA OF DIFFERENT PIG ORGANS

Demytyeva T.A.

*Novosibirsk State Agrarian University, Novosibirsk,  
e-mail: ademo@list.ru*

The concentration of sulfhydryl groups in blood and tissues reflects the intensity of metabolism. The involvement of thiolic groups in the processes of cell division and growth is identified. The SH-groups manifest their very good ability to enter into reactions. Thiols have hydrophilic properties. The thiols become localized in an aqueous phase of a cell where they protect a great many biologically important molecules from oxidative damages.

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dria were isolated out of 10% homogenate in the 0,25 M solution of sucrose with the method of differential centrifuging. The mitochondrial fraction purity was tested by contrasting phases. To analyze, there was taken the number of mitochondria corresponding to 0,1–0,2 mg of mitochondrial protein. The protein was determined with bull serum albumin as a standard.

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The examinations showed that the concentration of general SH-groups in mitochondria of pig liver was twice as much as pig heart of both Large White and Kemerovo breeds. Regarding the supernatant, the differences were somewhat less. The experiment identified the increased concentration of the general SH-groups in liver mitochondria in Kemerovo gilts (0,01) versus Large Whites. The same age Kemerovo pigs exceeded Large Whites by 10,98% (0,05) for the level of thiols titer in heart mitochondrial fraction. The experimental data allow to suggest high anti-oxidative activity of thiol groups in mitochondria of different organs in Kemerovo breed.

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#### AMINOTRANSFERASE ACTIVITY OF BLOOD IN PIGS FATTENING

Demytyeva T.A.

*Novosibirsk State Agrarian University, Novosibirsk,  
e-mail: ademo@list.ru*

One of the major problems of modern pig-breeding is searching for interior estimates to select pigs for productivity.

In this respect, enzymes are of interest, particularly aminotransferases that are involved in transamination of amino acids. It was proved experimentally that transamination reactions yield enzyme substrate complexes and dissociate a hydrogen atom attached to the carbon atom of amino acids. Composite relationship between aminotransferases activity and protein synthesis accounts for great importance of transamination in the process of vital activities of the organism. During postnatal development, transamination reactions and amino acid synthesis change identically.

Aspartate-aminotransferase-L-aspartate: 2-oxoglutarate-aminotransferase [C.F. 2.6.1.1] is an indicator-enzyme as the functional status of different organs (liver, heart) can be evaluated by increased activity of the enzyme in blood serum. It refers to the class of oxidoreductases, catalyzes the reverse reaction of an amino group transfer from L-aspartic acid to  $\alpha$ -ketoglutaric acid. In terms of chemical composition, aspartate-aminotransferase is a composite protein, the co-enzyme of which is pyridoxalphosphatum, it localizes in all organs and tissues.