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THE CORRELATION BETWEEN PHYSIOLOGICAL AND BIOCHEMICAL INDEXES OF BOARS SEMEN

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It was studied the physiological and biochemistry status of semen in boars with different sperm quality. From physiological indexes were studied: the volume, the common number of sperm, the concentration, movement of semen, termoresistential test and termostres test. The biochemical indexes: general protein and its fractions, activity of AlAT, AsAT and LDG, creatinine, urea, cholesterol, triglycerides, phosphorus, calcium. It was determined the correlation only between the separate of them.

Key words: *semen production, physiological indexes, biochemical indexes.*

Decreeding of the problem. Now the method of the artifisional insemination widely use on practice and it effect depend on quality of boar's semen. On the physiological and biochemistry indexes are influence the individual peculiarities of boars, sex load, forages and their maintenance. At the same time the physiological and biochemistry indexes are influence on the quality of boars semen and also on the results of its fertilized ability [1], that's why its investigations have very important meaning. Some physiological changes of organism state, changes of forages, their maintenance, season of the year and other factors are influencing on the protein composition of the semen. The number of general protein and its fractions at the animal's organism characteristics the protein exchange level and its one index of their health. At this work the important attention directing on the learning of boar's semen a big white breed. According to them, it was tested boars with higher and lower quality of sperm.

The analyses of investigations where this problem were demonstration. Semen – liquid that consist from spermatozoa and semen plasma. It consist of 95 % water and 5 % the dry substance, also 0,42-0,78 general nitrogen [3]. The level of physiological indexes boar's semen influence on the semen fertilized ability and reproductive ability of sows. The proteins – its high molecular compositions that have exactness configuration, the common physical and chemistry peculiarities and have some specifically biological role in the vital process of the living tissue and organism. The main role of proteins it's their catalytically activities. The substance of proteins nature are named of ferments. It very actual to learn the specialties' of them in living system. The principal function of transaminases – its acceleration the reactions of disintegration and synthesis the aminoacids in the animals organs and tissues. The transaminases have very important role at the nitrogen exchange and they also – the cell ferments [2]. LDG – it's the main ferment of the glycolise. Its founding in all tissues of animals and human [6]. Creatinine – it's component of nitrogen exchange and stimulation the biosynthesis of proteins [2, 6]. Urea – it's the final product of the proteins exchange, the main part of reserve nitrogen in the mammalian blood

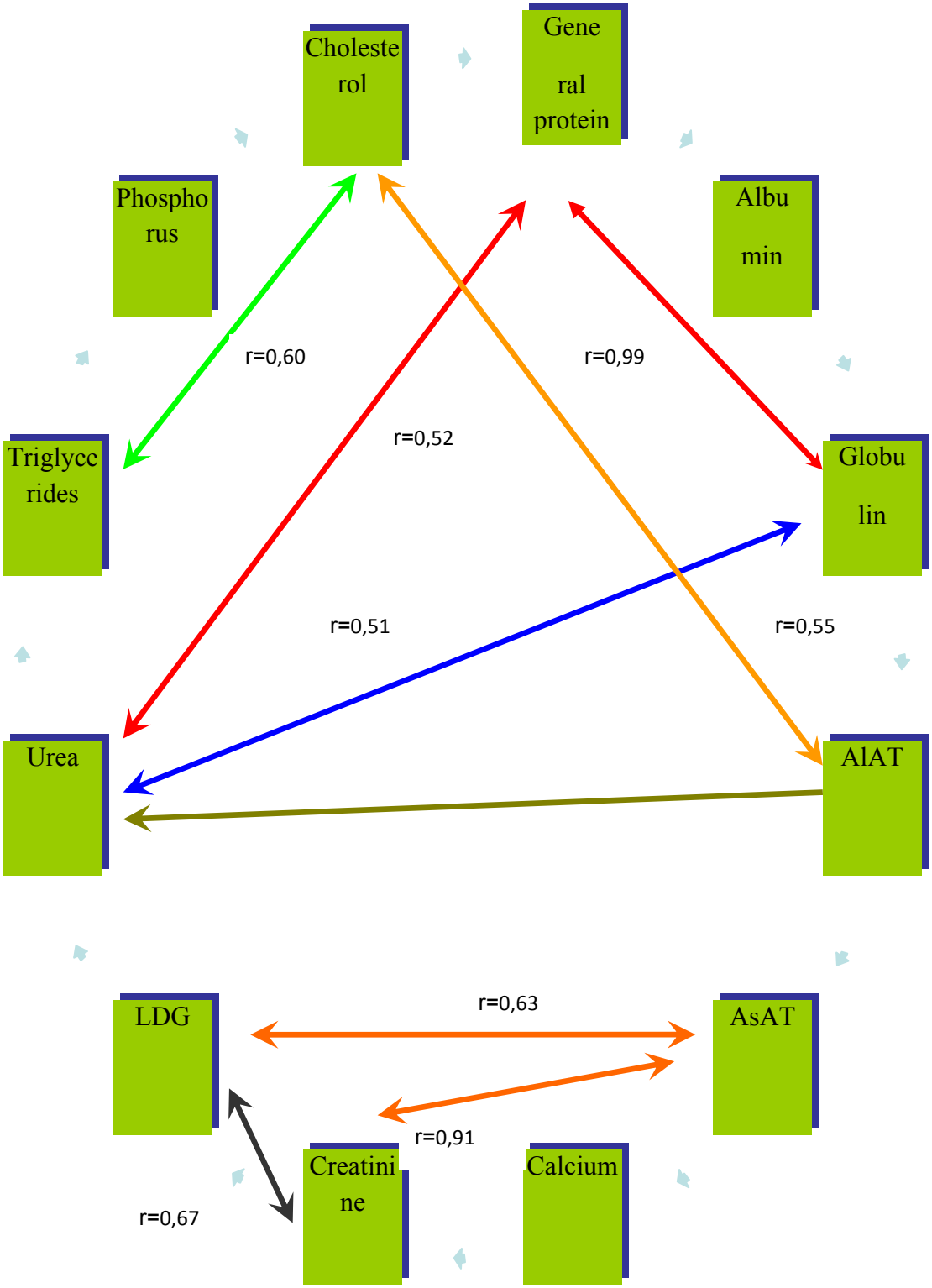
[2]. Triglycerides – the complicated effires of glycerin and rich acids, the main part of plants and animals fats [5, 6]. The spring of gall acid in the mammalians organism, sex hormones, vitamin D3 and other main biological components named cholesterol [5,6]. The principal structuring component of the skeleton bones and the tooth in animals and human its calcium [2]. And a phosphorus its one of the most important component of minerale exchange state [6].

The purpose and the task of investigation. The purpose of our investigations were determine the correlation between physiological and biochemical indexes of native boar's semen with different peculiarities between them. The important task of our investigation its studies the activity of ferments, especially in the boar's semen [6].

The methods of investigation. The investigations conducted in the physiological laboratory of the NAASU Pig Breeding and agricultural production Institute, the artifisional insemination station «Nadiya» (2010-2011). For our research were used 6 boars a big white breed (11-12 months) and weight (132-143 kilograms). The semen from boars received with interval 5-6 days from manual method. In our research determined such indexes: the volume, the common number of sperm, the concentration, movement of semen, termoresistential test and termostres test. The number of biochemical indexes in the blood and semen were determined with automatic biochemical analisator «Super Z-818» (Japan).

The results of investigations. It was determined correlation between separate indexes in boars with different quality of semen. At the first group were middle correlation between the concentration of sperm and proteins (r = 0,59), urea (r = 0,77), LDG (r = 0,53); between termostres test and a phosphorus (r = 0,69), cholesterol (r = 0,54). In boars with lower quality of semen were determined the correlation of some strength: between termoresistential test and calcium (r = 0,64), creatinine (r = 0,63), triglycerides (r = 0,51), AlAT (r = 0,55), AsAT (r = 0,58); termostres test and AlAT (r = 0,50); between survives of sperm and AsAT (r = 0,61).

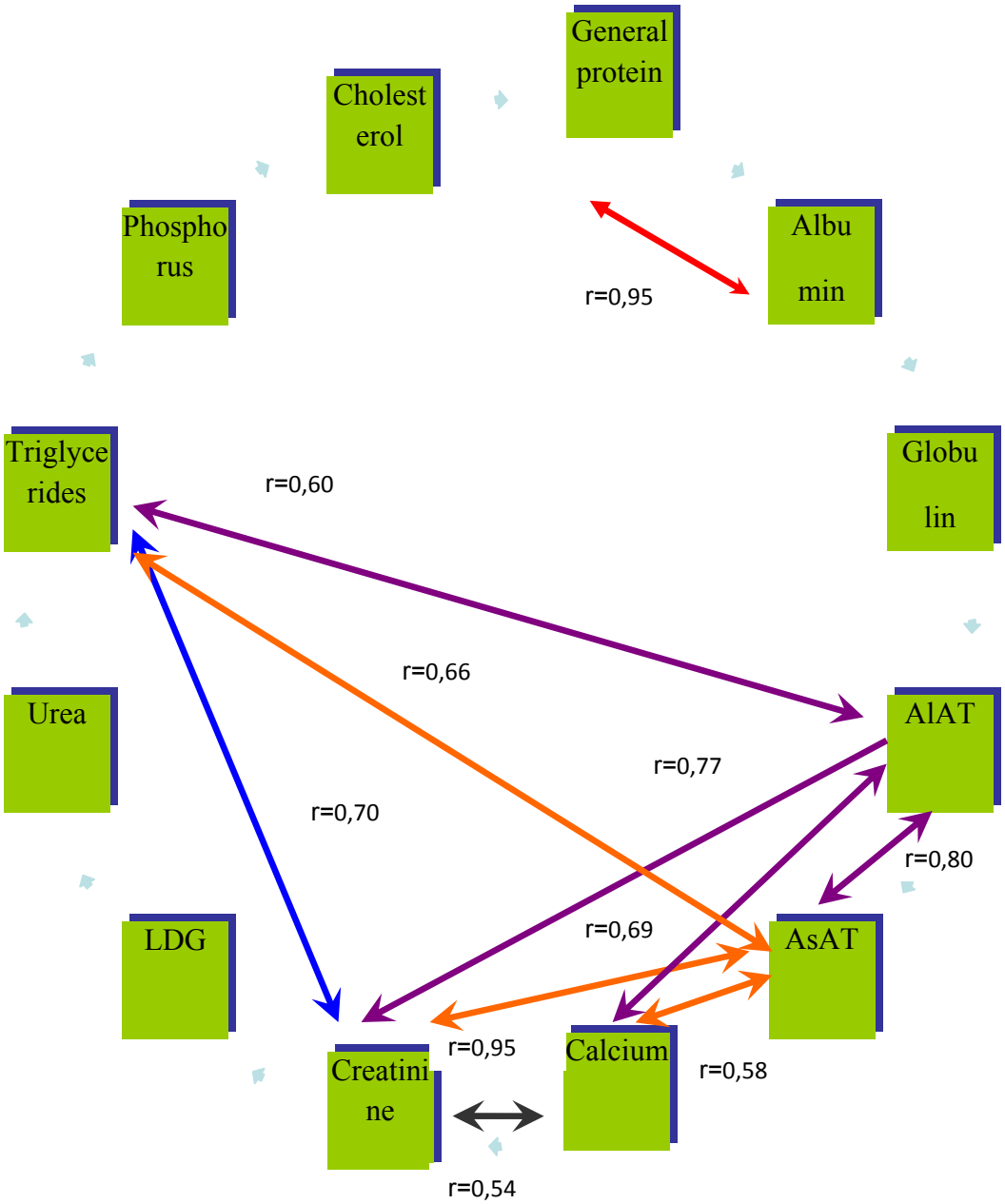
At the group of semen higher quality between biochemical indexes were correlation of a strong strength: between general protein – globulins (r = 0,99); creatinine – AsAT (r = 0,91); the middle correlation: between general protein – urea (r = 0,52), globulins – urea (r = 0,51), AlAT - cholesterol (r = 0,55), AsAT – LDG (r = 0,63), creatinine – LDG (r = 0,67), triglycerides - cholesterol (r = 0,60) (scheme 1).



Scheme 1. The correlation between some biochemical indexes of boar's semen at the first group.

At the second group were determined correlation of a strong strength: general protein – albumins (r = 0,95), AlAT– AsAT (r = 0,80), AlAT – calcium (r = 0,69), AlAT - creatinine (r = 0,77), AsAT – creatinine (r = 0,95); the middle correlation:

AlAT - triglycerides (r = 0,60), AsAT - calcium (r = 0,58), AsAT – triglycerides (r = 0,66), calcium - AlAT (r = 0,69), calcium - creatinine (r = 0,54), creatinine – triglycerides (r = 0,70) (scheme 2).



Scheme 2. The correlation between some biochemical indexes of boar's semen at the second group.

Conclusions: 1. It was determined the some strength correlation between different indexes in boars with different quality of semen.

2. According to determine the correlations between different biochemical indexes at the first and second groups revealed the various correlations. Its mean that in different quality of semen the biochemical processes are not identical.

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