The content of vitamin A in the blood, organs and tissues pond fish, including carp, varies greatly depending on its content in the diet. Vitamin A deficiency in the diet leads to inhibition of metabolic processes in the body and reproductive capacity of carp.

Phospholipids fatty acids in the body is the source of a number of biologically active substances (prostaglandins, thromboxane and leukotriene), which have a significant impact on the reproductive system of fish. However, so far the impact remains unknown endogenous and exogenous vitamin A fatty acid composition of phospholipids in skeletal muscle and reproductive ability of females and males-sires carp.

The objective was to investigate the effect of increased amount of vitamin A in the diet on the fatty acid composition of phospholipids of skeletal muscles and reproducible ability of carps-sires. The experiment conducted in the pre-spawning period in three groups carps-sires.

The control group carp received standard pelleted feed. The research group carp-producers received in the composition of the above-mentioned feed retinil-acetate. It is found that in the skeletal muscle of females and males carps-sires of the experimental groups in the pre-spawning period as part of standard granulated feed received vitamin A in the amount of 2500 and 5000 IU/kg diet was significantly and dose-dependently reduced the content of phospholipids.

At the same time in their fatty acid composition decreases the level of monounsaturated fatty acids n-9 family, but increases - families of polyunsaturated fatty acids n-3 and n-6. In females carps-sires of the experimental groups in the pre-spawning period as part of standard granulated feed was a additionally fed to vitamin A in the amount of 2500 and 5000 IU/kg of feed, significantly and dose-dependently increased working and relative fecundity and in males - volume of milts. Is increases release of larvae from caviar.

**Keywords:** CARP-SIRES, PHOSPHOLIPIDS, SKELETAL MUSCLE, REPRODUCED ABILITY, FECUNDITY.