

## The Influence of the Aquatic Environment on Hematological Parameters in *Cyprinus carpio*

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**Abstract :** Just as air influences the quality of life in the terrestrial environment, water, as a living environment, is one of great importance when it comes to the quality of life of underwater animals, which acquires an even higher degree of importance when analyzing underwater creatures as future products for human consumption. Thus, going beyond the ideal environment, in which all water quality parameters are permanently in perfect standards for reproduction, growth, and development of fish material and customizing this study to reality, it was demonstrated the importance of reproduction, development, and growth of biological material, necessary in the population fish farms, in the same environment to gain the maximum yield that a fish farm can offer. The biological material used was harvested from 3 fish farms located at great distances from each other to have environments with different parameters. The specimens were clinically healthy at 2 years of age. Thus, the differences in water quality parameters had effects on specimens from other environments, describing large curves in their evolution in new environments. Another change was observed in the new environment, the specimens contributing with the "genetic package" to its modification, tending to a balance of the parameters studied to the values in the environment in which they lived until the time of the experiment. The study clearly showed that adaptability to the environment in which an individual has developed and grown is not valid in environments with different parameters, resulting even in the fatality of one sample during the experiment. In some specimens, the values of the studied hematological parameters were halved after the transfer to the new environment, and in others, the same parameters were doubled. The study concludes that the specimens were adapted to the environment in which they developed and grew, their descendants having a higher value of heritability only in the initial environment. It is known that heritability is influenced 50% by the genetic package of the individual and 50% by the environment, by removing the value of the environment, the duration of improvement of characters of interest will be shorter and the maximum yield of fish farms can be achieved in a smaller period.

**Keywords :** environment, heritability, quality, water

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