



EFFECT OF PARAPROTEX AND THE MIXTURE OF GRAPE MARC, CINNAMON AND CLOVE ON THE CARP (*Cyprinus carpio*) GROWN IN RAS - RECIRCULATING AQUAPONIC SYSTEM

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ABSTRACT

Aquaponics, a complex cultivation method obtained by combining two different systems, hydroponics and aquaculture, operates on the principle that fish waste becomes a resource for plants. Recirculating aquaponic systems are mostly used in research, being a less polluting alternative and being more effective from the cost points of view. RAS used for the research was placed into an ICDIMPH-HORTING Bucharest greenhouse, using three plants callus tunnels for supporting two sections: the fish breeding section represented by *Cyprinus carpio*, and the plant growth represented by *L. sativa*. The biological material was placed into 8 tanks where phytobiotics represented by *Paraprotex* and *MCC* mixture were added into the daily fish feed to monitor the fish health and the effect that the two types of mixture have on the fish health. The fish health status was monitored by performing blood tests in the first day of experiment, in the middle and at the end of the experiment. The values of hematological indicators showed variations during the experiment period, some of them being within the range values for *C. carpio*, while others fell within the normal limits. The aim of the study is to evaluate the fish health status and their development under the influence of natural phytocomplexes administered in the feed.