

Production of handmade substrate based on shells of *biomphalaria* spp. for the maintenance of intermediate hosts of *schistosoma mansoni* in the laboratory

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The *biomphalaria* spp. (gastropoda: planorbidae) act as intermediate hosts of schistosomiasis disease, which due to the lack or absence of basic sanitation, combined with poor socioeconomic conditions, affects thousands of people worldwide. in brazil, the spread of the disease is determined by three species of snails that genre: *b. glabrata*; *b. tenagophila*; and *b. straminea*. the maintenance of these molluscs in the laboratory is an important tool to reproduce the schistosomiasis cycle under controlled conditions and to research for ever more preventive measures for this parasite. the substrate utilized in the maintenance of these snails is necessary to ensure that they maintain their shells with a rigid external structure, providing support and protection of the tissues that make up the soft part. the shell of these mollusks is composed of 95-99% calcium carbonate, one of the most important and most expensive constituent of the substrate. the objective of this study was to evaluate the efficacy of the replacement of calcium carbon present in an already standardized substrate, by a compound with the same properties but of a sustainable origin, obtained through shells of limnic shellfish, aiming at the maintenance, more efficiently and inexpensively, of *schistosoma mansoni* intermediate hosts in the laboratory. for this, treatment and sterilization of the shells kept in the collection of the laboratory of human parasitology-uema, to obtain the calcium carbonate powder. then, for the preparation of the handmade substrate, clay, oyster flour and calcium carbonate (from the shells) were used, these were mixed in standard proportions of the national health foundation-funasa. molluscs used in the experiment were obtained from the laboratory. the substrate was tested during a maintenance of the molluscs, these were divided into control groups (negative and positive) and test group. the following parameters were evaluated: mortality; quantity of spawning; time of first posture; growth and morphological aspects of shells; and benefit-cost ratio. results were expressed as mean \pm standard deviation, using the anova followed by tukey's test for multiple comparison between groups and holm-sidak followed by student t test, values were considered significant when $p < 0.05$. in relation to the dead snails, control and test-positive group exhibited fewer deaths compared to the control-negative group (** $p < 0.0001$); quantity of spawns did not show statistically significant difference between the test and the control-negative group, as compared to the control positive group; the growth, positive control and test groups showed measurements above from the negative control group (** $p < 0.0001$), and also become sexually mature first; morphology of the shells, the control positive and the test groups showed similar characteristics as rigidity, different from the control-negative group, which obtained many cracks and fractures, as well as greater ease in breaking the same; benefit-cost ratio, the use of the handmade substrate proved to be advantageous and economically satisfactory. therefore, the developed product was confirmed efficiently equal to the already standardized substrate, with the differential being sustainable and low cost.