Availability of Reference Artemia* Cysts

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ABSTRACT: Biometrical, biochemical and food-value characteristics of Artemia nauplii vary with the source of the cyst material. In order to facilitate intercalibration and/or comparison of research conducted with cysts from different sources, homogeneous cyst material can now be obtained from the Artemia Reference Center (State University of Ghent, J. Plateaustraat 22, B-9000 Ghent, Belgium). The reference cysts have been tested extensively for hatching characteristics, biometrics, fatty-acid content, pesticide contamination and effectiveness as larval food for various crustaceans and fishes.

Cysts of the brine shrimp Artemia sp. are now commercially available from natural sources in Argentina, Australia, Brazil, Canada, France, India, People's Republic of China, Spain, Thailand and USA (Sorgeloos, 1980). Literature data (see reviews by Kinne, 1977 and Sorgeloos, 1980b), personal communications with fish and crustacean mariculturists and detailed biological and biochemical analyses of the interdisciplinary research program 'International Study on Artemia' (ISA; more details in Sorgeloos, 1980b) indicate that the biometrical and biochemical characteristics of Artemia nauplii as well as their food value for various predator larvae vary greatly from one Artemia source to another. Furthermore, it has been noted at repeated occasions that the exact geographical origin of some commercial cyst sources is not always specified exactly.

In view of the difficulty of intercalibration and/or comparison of research experiments with different sources of brine shrimp, the participants of the Workshop 'Characterization of Artemia Strains for Application in Aquaculture', held at the occasion of the International Symposium on the Brine Shrimp Artemia salina L. (Corpus Christi, Texas-USA, August 1979) (Simpson et al., 1980), agreed that the ISA-team should explore the possibility of making available a certified or standard Artemia source as reference material. This objective has been realized: a homogenous stock of Artemia cysts has been obtained and is kept at the Artemia Reference Center in Belgium. The origin of the 'Reference Artemia Cysts' (RAC) will not be disclosed for obvious commercial reasons.

The Reference cysts have been tested extensively by the ISA-laboratories for their hatching characteristics, biometrics, fatty acid content, pesticide contamination and effectiveness as larval food for Rhithropanopeus harisii, Mysidopsis bahia, Menidia menidia and Pseudopleuronectes americanus. The RAC-nauplii are small in size, a good source of poly-unsaturated fatty acids (20:5ω3), low in chlorinated hydrocarbons and they support good growth and maximal survival for the fish and crustacean larvae tested so far.

Small samples of the RAC-stock are available from the Artemia Reference Center for use as calibration material for any type of fundamental or applied Artemia research.

LITERATURE CITED


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0171-8630/80/0603/0363/S 02.00


