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Effect van verschillende garnaaldensiteiten op nematodengemeenschappen in kweekvijvers van garnalen (Ecuador)

door

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SUMMARY

The purpose of this thesis was to investigate the effect of different shrimp densities on (free-living marine) nematode communities. This experiment is a part of the Ph.d. *'Importance of benthos communities to shrimp production'* from Maria H.C.Rodriguez. Finances and logistics are coming from an agreement between the University of Ghent and CENAIM-ESPOL (Ecuador).

The purposes of this investigation are :

- ✓ Densities of nematode communities in shrimp ponds are influenced by shrimp densities.
- ✓ Higher concentrations of shrimp could cause lower densities in nematodes supposing that shrimp feed on nematodes (the dominant group in benthic life).

The experiment was executed in Veronesi, a shrimp pond in the Guayas province (Ecuador). The pond is situated in the middle of a large mangrove area in an estuary (Gulf of Guayaquil). In the shrimp pond of 0,5 ha 25 cages were placed. Every cage, surrounded by nets that are kept to the ground by cables with weights, is 9m². Distances between every cage are equal.

De monitoring of the meiobenthos, especially Nematoda, happens through sampling of the sediment of every cage. Environmental factors mainly from the water, like temperature, salinity and oxygen, were measured every time a sediment sample was taken. 7 times samples were taken from 11/06/02 until 06/08/02.

The first sample comes from a situation when the pond was still dry (sample 11/06/02) then the pond was filled with water (samples 26/06/02 until 17/07/02).

On 27/07/07 experiment started en was monitored during 2 weeks (samples 02/08/02 and 06/08/02). The cages were randomized among the different treatments. 8 different treatments (+ control) were divided so that every treatment had 3 replicas. The different treatments reflected the 3 most common used ways to grow out the postlarval stages of *Lithopenaeus vannamei*: the extensive method (6ind./m² of *Lithopenaeus vannamei*), the semi-intensive (15ind./cm²) and the intensive method (30ind./m²). Three treatments consisted of the different densities, three others had the different densities plus the common food used, and another two only had the amount food according to the extensive and semi-intensive method.