

Vital Earth Resources

706 East Broadway, Gladewater, Texas 75647
(903) 845-2163 FAX: (903) 845-2262

2003 Crop Results

Vitazyme on Shrimp

Researcher: Ing. Patricio C. Velasquez, Universidad Tecnica de Machala, Centro de Investigaciones Agropecuarias, Programa de Acuicultura, Machala, Ecuador

Shrimp farm owner: Mr. Seidler

Location: Camaronera Mariluna, Machala, Province El Oro, Ecuador

Nutripak composition: 12% humic acids, seaweed extract, microbes including *Azotobacter*, *Bacillus subtilis*, actinomycetes, *Clostridium*, *Lactobacillus liquifaciens*, mycorrhizae, *Pseudomonas*, *Rhizobium*, and *Thiobacilleus*.

Nutripak application: 0.5 l/ha

Vitazyme application: 1 l/ha, with Nutripak, to the mud or shallow seawater on the pond bottom a week before flooding

Treatment dates: unknown

Quotes from Ing. Velasquez. July 18, 2003: "In regard to the preliminary outcome of the trial using the products Vitazyme and Nutripak, I must state that the results are acceptable as growth promoters of natural productivity. We have observed an increase in the benthic growth of a diverse microalgae population such as diatoma, navicula, amphiphora, nitzchia, oscilatoria, and anabaena, as well as the presence of nematodes, poliquetos, and other phytoplankton genera and benthic organisms Nutrition is a key factor for better [shrimp] production. A biological inoculation in well treated pond soils will always be an excellent mechanism."

October 8, 2003: "Camaronera Mariluna, situated in Machala, Province El Oro in Ecuador, is performing some trials using a few products to assure the system's natural productivity. Enzymes, specific proteins, used to accelerate chemical reactions, are good complements in cell metabolism. With this rationale, we are using Vitazyme for soils in shrimp farming. In addition, we are using Nutripak in order to inoculate microorganisms (in particular bacteria) and to supplement micronutrients. We suspect that the combined use of both products would generate biological reactions with the subsequent contribution to increased productivity of the environment. Preliminary observations have allowed to determine that when these biological reactions take place with the use of these sorts of natural products, whether enzymatic or micronutrient or microorganism or organic compounds, soil productivity is substantially increased. It has been observed in shrimp ponds an increased presence in quantity and variety of diverse microorganisms with the use of such propagation methods."