عنوان مقاله:

The independent effects of ferrous and phosphorus on growth and development of Tetraselmis suecica; an in vitro study

محل انتشار:

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خلاصه مقاله:

Five treatments including Conway medium, media containing ۰.۱, ۰.۱۷, ۰.۳ and ۰.۵ mg l-۱ ferrous (Fe; in the first experiment), media with ۱, ۱.۲۶, ۱.۵۹, ۲ mg l-۱ concentrations of phosphorous (P; in the second experiment) and a pure sample of Tetraselmis suecica were cultured under laboratory conditions. Growth rate of the algae was determined using the optical density method at ۷۵۰ nm and number of algal cells were counted with a hemocytometer. The results of the first experiment showed that the amount of Fe for maximum growth of this species was ۰.۳ mg l-۱, while Fe concentration in Conway medium was ۰.۲۷ mg l-۱ (P>۰.۰۵). The results of second experiment showed that ۱.۵۹ mg l-۱ P caused the maximum growth of algae which was not significantly different from that of the control medium (with ۱.۶ mg l-۱; Conway; P>۰.۰۵). These results showed that due to the lack of significant differences in maximum growth of this alga recorded in ۰.۳ mg l-۱ Fe and that recorded in ۱.۵۹ mg l-۱ P in Conway medium, increase or decrease of these doses will have a significant negative effect on algal growth. REFERENCES AQUACOP. (۱۹۸۴) Aquaculture en milieu tropical. IFREMER Service documentation Publication. B. P. ۳۳۷- ۲۹۲۷۳ Brest, Cedex, ۴۶۹ p. Brown, M.R. (۲۰۰۲) Nutritional value of microalgae for aquaculture. Advances en nutrition acuicola VI. Memorias del VI. (eds. Cruz-Suares, L. E., D. RicqueMarie, M. Tapia-Salazar, M.G. Gaxiolacortes, and N. Simoes). Simposium internacional de nutrition acuicola. ۳-۶ Septiemper del ۲۰۰۲. Cancun, Quintanaroo, Mexico. Borowitzka, M.A. (۱۹۹۹) Commercial production of microalgae : ponds, tanks, tubes and fermenters. J Biotechnol ۷۰, ۳۱۳-۳۲۱. Burlew, J.S. (۱۹۵۳) Algae culture. from laboratory to pilot plant. Carnegie Institution of Washington, Washington, DC. Fulks, W. and Main, K.L. (۱۹۹۱) The design and operation of commercial-scale live feeds production systems. In : Fulks, W., Main, K.L. (Eds.), Rotifer and Microalgae Culture Systems. The Oceanic Institute, Honolulu, HI, pp. ۳-۵۲. Halama, D. (۱۹۹۰) Single cell protein. Non conventional feed stuffs in the nutrition of farm animals. (ed. Kolma, B). pp. ۳۴-۴۹. Elsevier Science Publishing Company, Inc. New York. Hansen, P.J. (۲۰۰۰) Use of a hemocytometer. Department of animal science, University of Florida. Pp. ۱۰-۱۵. Jeffery, S.W., LeRoi, J.M. and Brown, M.R. (۱۹۹۲) Characteristics microalgal species for Australian mariculture. (Eds. Allen, G.L and Dall, W). Proceeding of the National Aquaculture Workshops, April ۱۹۹۱, pp ۱۶۴-۱۷۳. Kawamura, T., ... Roberts, R.D. and Nicholson, C.M. (۱۹۸۸) Facto

کلمات کلیدی:

Ferrous, Phosphorus, Tetraselmis suecica, Conway medium, Growth