The comparison of different method cultures of harmful dinoflagel *Cochlodinium polykrikoides* at laboratory condition

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Abstract

Cochlodinium is a dinoflagel that it's bloom in the coastal water of worlds and caused to fish mortality. *Cochlodinium* was detected in the Persian Gulf since 2008. After purification of *C. polykricoides* using light, it cultured using medium of f/2 (modified), Guilard (f/2-Si), TMRL, Conway and ESM. *Cochlodinium* cultured in tubes, erlanmeyer with volume of 100-1000 ml and aquariums with the volume of 16 liters (each with 10 liter water) with three replicates in each treatment, in the water salinity of 32 ppt, water tempreture of 25 ^{0}C, light intensity of 5000 lux and 12 hours dark and 12 hours light. The maximum cell density reached to 3283000 cells/l in f/2 (modyfied) medium, 2683000 cells/l in TMRL medium, 6393000 cells in erlanmeyer with 200 ml volume, 2833000 cells in erlanmeyer with 500 ml volume and 3600000 cells in TMRL medium in aquarium. *Cochlodinium* culture with TMRL medium in in erlanmeyer with 100 ml, 3207000 cells/l, 200 ml 3040000 cells/l, 1000 ml 2325000 cells/l counted. The culture of *Cochlodinium* in f/2 was possible in the aquarium but the culture of *Cochlodinium* in aquarium was not suitable. In f/2 medium the mean of *Cochlodinium* in in each treatment was 3600000 cell/l in aquarium. *Cochlodinium* count in TMRL medium of aquarium was 550000 cell/l. Unsuccessful culture of *Cochlodinium* using Conway medium and Gyllard (f/2-Si) indicated that these mediums weren't suitable for *Cochlodinium* culture. Based on results *Cochlodinium* count decreased with the increase of erlanmeyer volume in ESM. But, in tubes and in erlanmeyer with volum 100 ml, it was almost, successful. We can conclude that *Cochlodinium* culture required to special condition and medium, that with f/2 (modyfied) medium was gained.

Keywords: *Cochlodinium polykricoides*, Culture medium, Cell density, Laboratory condition, Persian Gulf.