THE EFFECT OF TWO DIFFERENT CULTURE MEDIA AND FIVE DIFFERENT SALINITIES ON GROWTH OF *TETRASELMIS SUECICA*

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Abstract
Tetraselmis suecica was cultured at five different salinities, 15 psu, 20 psu, 25 psu, 30 psu and 35 psu and two culture media during one week. The highest growth (648 x 10^4cell.ml^{-1}) was determined at 25 psu and Walne medium in 6^{th} day. However in Super medium cell density was reached 310 x 10^4 cell.ml^{-1} in 20 psu in 6^{th} day. At the end of the experiments final cell densities were significantly different between experimental groups ($p<0.05$).
Keywords : Phytoplankton, Growth, Aquaculture.

Introduction
Microalgae are required for larvae nutrition during a brief period, either for direct consumption, in the case of molluscs and penaeid shrimp, or indirectly, as feed for the live prey fed to small larvae fish [1]. Microalgae types vary, but the most common are single-celled algae such as Tetraselmis, Chlorella, and Isochrysis. Tetraselmis is a marine green flagellate widely used in aquaculture facilities as feed for bivalve molluscs, penaeid shrimp larvae and rotifers [2]. *Tetraselmis suecica* has good nutritional properties [3-4]. The aim of this study was to determine optimal salinity and most suitable culture medium for successful *T. suecica* culture.

Material and methods
T. suecica was obtained from algal culture collection of Fisheries Faculty, Ege University. Each experiment (1 l flask) was designed in five different salinities (15 psu, 20 psu, 25 psu, 30 psu and 35 psu) and two culture mediums Walne [5] and Super Medium (ammonium sulphate, Super Phosphate, EDTA, Ure). Sea water was filtered and sterilized by autoclave. Initial cell densities in each flask were approximately 30.6±1.27 x 10^4 cell ml^{-1}. The cultures were kept under constant illumination and aeration at 20±2 °C during one week. Two replicates were set for each culture condition. Cell density was counted daily, using a Neubauer in an optic microscope. Differences between salinities and culture mediums were compared with One way ANOVA by using SPSS 11.0.

Result and Discussion
Figure 1 shows that the growth of *T. suecica* in Walne medium. The highest cell density was determined 648 x 10^4 cell ml^{-1} at 25 psu salinity in 6^{th}day. However in Super medium maximum cell was obtained 310 x 10^4 cell ml^{-1}at 20 psu salinity (Fig. 2).

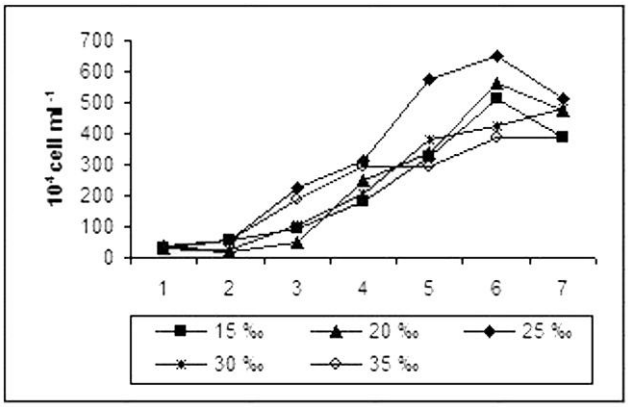

Fig. 1. The growth of *T. suecica* in Walne culture medium.

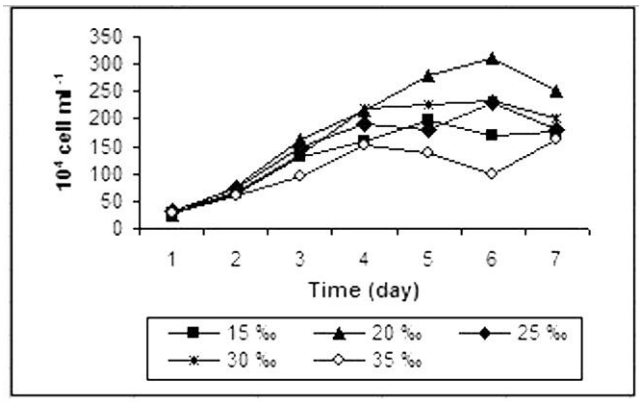

Fig. 2. The growth of *T.s uecica* in Super medium.

Growth showed a decline after 6 days in two culture media and all salinities except 35 psu. Statistical analyses showed no significant differences between experimental groups at daily growth ($p>0.05$). But final cell densities between two culture mediums showed significantly differences ($p<0.05$). Similarly it has been reported that good *T. suecica* growth occurred between 25-35 psu [6]. As a result of this study, we can suggest that 25psu salinity and Walne medium is better for obtaining high cell density of *T. suecica*.

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