EFFECTS OF OLIGOTROPHY GRADIENTS ON PELAGIC PRIMARY PRODUCTION IN THE AEGEAN SEA (EASTERN MEDITERRANEAN)

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Primary production was measured on a north-south oligotrophy gradient in the Aegean Sea* (1). Hydrological characteristics revealed a permanently stratified system in the North, influenced by Black Sea Waters (BSW) whereas the South alternated from highly stratified to well-mixed conditions in summer and winter, respectively (2). Despite the lack of important differences in nutrient concentrations, chlorophyll and primary production during the spring bloom were higher in the North (Fig. 1), based mainly on picoplankton and regenerated nitrogen forms, while diatoms were absent. Thus, the high primary production rates could be supported by the high organic matter inputs of BSW origin through regeneration processes (3).

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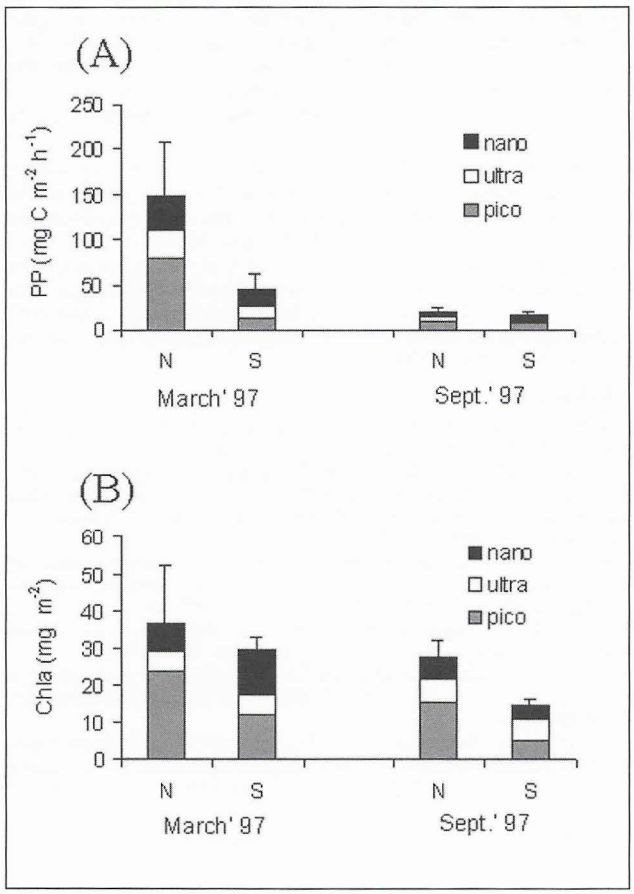

Fig. 1. Primary production (A) and chlorophyll-a (B) size-fractionated measurements, in the North (N) and the South (S) Aegean Sea, during March and September '07. Size fractions correspond to 0.2-1.2μm, 1.2-3μm and > 3μm, representing pico-, ultra- and nano-phytoplankton, respectively. Error bars represent the SD of total primary production and total chla between the stations in the two basins.

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