UNIVERSITY OF CALIFORNIA, SAN DIEGO

Growth and Domoic Acid in Two Species of a Toxic Diatom

A thesis submitted in partial satisfaction of the

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Scripps Institution of Oceanography (Biological Oceanography)

by

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Professor Brian Palenik

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ABSTRACT OF THE THESIS

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The toxic diatom genus, Pseudo-nitzschia contains several species that produce the glutamate agonist, domoic acid. Two of these species, *P. multiseries* and *P. australis*, were grown in four different media to examine the effect of different macronutrient limitations on growth, nutrient utilization, and toxin production. Particulate and dissolved fractions of domoic acid were measured separately to determine their respective importances in the dynamics of domoic acid production. Dead cells were also measured to assess the importance of mortality. Only *P. multiseries* produced detectable levels of toxin. A budget was formulated for this species and the ramifications are discussed.

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