



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Joshua A. Kroll	Project Number S1911
Project Title Optimizing Growth in Captive Aurelia aurita Juveniles	
Abstract Objectives/Goals At the Monterey Bay Aquarium, moon jellies, <i>Aurelia aurita</i> , are cultured for exhibits and as food for a diverse group of animals. It has therefore become important for staff scientists to be able to grow the jellies to maturity as quickly as possible. Among the variables which affect the growth rate are stocking density, size of the daily ration, and distribution of the ration throughout the course of the day. This project aims to test the last variable and determine whether <i>A. aurita</i> grow faster when fed only once every day or when fed their ration in two parts spaced over several hours. Unpublished observation suggests that it takes approximately eight to ten hours for each ephyra to clear its gut. Animals fed twice per day should thus grow faster as they will be able to eat again after clearing their guts and less will leave the system as waste. Methods/Materials The jellies were measured over a two week period. The total daily ration for both groups was 1400 ml. of brine shrimp nauplii. One group was fed the entire allotment in the morning. The other group was fed their portion in two parts spaced eight hours apart. The average sizes of the animals at the outset and at the end were compared. Results Initial data suggest that the tanks were originally the same. After two weeks under the varying conditions, the animals fed twice every day were significantly larger. Conclusions/Discussion The results suggest that the moon jelly <i>Aurelia aurita</i> grows faster when fed twice daily, as compared with once daily. As this may only be true up to a point, it will be necessary to test other divisions that could be made to the ration, such as three times daily or a trickle feed giving 1400ml per day.	
Summary Statement This experiment is designed to test the effects of varying the feeding regime of captive <i>Aurelia aurita</i> on the growth rate during the transitional phase between the juvenile (ephyra) stage and adulthood.	
Help Received Used lab equipment at Monterey Bay Aquarium; used Monterey Bay Aquarium's animals; aquarist Chad Widmer consulted on moon jelly life cycle/project idea/methods; Dr. Rose Ray, of the Exponent corporation, aunt, explained the ANOVA analysis which was used.	