

20<sup>th</sup> World Congress on

## NUTRITION &amp; FOOD SCIENCES

May 14-16, 2018 Tokyo, Japan

**Deletion method to establishing the optimal essential amino acid ratio for juveniles of pacu (*Piaractus mesopotamicus*)****Joao Batista Kochenborger Fernandes and Andre Zuffo Boaratti**  
Paulista State University, Brazil

The aquaculture looks for more and more an efficient production, less environmental impact and increased profitability. Knowing that the correct feeding and balanced diet promotes maximization of growth and health, reduce the production costs and water pollution, the present study aimed to estimate the essential amino acids (EAA) ratio for juveniles of pacu (*Piaractus mesopotamicus*) using the deletion method. For this, 635 pacus (6.23 g) were distributed in thirty three tanks connected to a closed water recirculation system equipped with filter, water heater (27.8 °C) and aeration. The experiment lasted 113 days and consisted of 11 experimental diets with three replications each, distributed in a completely randomized design. The fishes were fed twice a day until apparent satiation. The semi-purified and extruded diets were formulated by the deletion technique, where the control diet presented all the EAA in a balanced way, while the experimental diets presented the deletion of 45% of the respective tested EAA. In this way it was possible to obtain 11 iso-nutrient diets varying only the tested EAA. The determination of the essential amino acids ratio was performed by the ratio between the nitrogen retention in fish body and the amount of the EAA deleted in the tested diet. Thus, assuming that each EAA is equally limiting, our results show the ideal dietary EAA profile relative to lysine was estimate to be: lysine 1.000, arginine 0.593, threonine 0.336, valine 0.282, leucine 0.396, isoleucine 0.220, phenylalanine 0.226, methionine 0.126 and tryptophan 0.063.

**Biography**

Joao Batista Kochenborger Fernandes has completed his PhD Paulista State University, Brazil and Postdoctoral studies from University of Arkansas, USA and University of Kwazulu-Natal, South Africa. Since 1990, he has been a Specialized Fish Technician at the Aquaculture Center of UNESP in Brazil, developing activities with rural producers through consultancies, projects and technical assistance.

jbatista@caunesp.unesp.br

**Notes:**