



**Dietary sunflower oil improves performance of pacu *Piaractus mesopotamicus***

Thyssia Bomfim Araújo da Silva<sup>(1)</sup>; Jony Koji Dairiki<sup>(2)</sup>, José Eurico Possebon Cyrino<sup>(1)</sup>

<sup>(1)</sup> Escola Superior de Agricultura “Luiz de Queiroz”, Universidade de São Paulo. Av. Pádua Dias 11; Caixa Postal 9; 13418-900 - Piracicaba – SP  
thyssia\_bomfim@hotmail.com; jepcyrin@esalq.usp.br

<sup>(2)</sup> Embrapa Amazônia Ocidental; Rodovia AM 10, km 29; Caixa Postal 319  
69011-970 - Manaus – AM; jony.dairiki@cpaa.embrapa.br

Lipids are essential nutrients and important dietary energy sources for aquatic organisms. The freshwater fish do require dietary linoleic (18:2-n6) and linolenic (18:3-n3) fatty acids. The sunflower oil has excellent physical-chemical and nutritional characteristics, high polyunsaturated to saturated fatty acids ratio, and about 65% linoleic acid. This work evaluates the substitution of dietary soybean oil (SBO) by graded levels of sunflower oil (SFO) on the performance of pacu *Piaractus mesopotamicus*. Juvenile pacu (14.4 ± 0.4 g) were stocked in 70-L aquaria (15 fish per aquarium) under partial, continuous, individual water renewal system, continuous aeration (dissolved oxygen 5.02 ± 0.87 mg L<sup>-1</sup>), controlled temperature (26.3 ± 1.4 °C) and photoperiod (12 L: 12 D), and fed for 85 days with diets containing increasing levels sunflower oil (20, 40, 60, 80, 100%) in substitution of soybean oil, a control diet (no sunflower oil) and a commercial feed, in a totally randomized design trial (n=4). At the end of the experimental period four performance parameters of fish were analyzed: final weight (FW); weight gain (WG), feed conversion rate (FCR) and specific growth rate (SGR). Data were submitted to ANOVA and Dunnet's test to determine contrasts between treatments and control means. Up to 80% dietary SFO level, performance of fish – FW 82.59 ± 4.91 g; WG 67.51 ± 4.95 g; FCR 1.05 ± 0.09; and SGR 2.19 ± 0.09 % – were an average 30% better than the other treatments. The better, adequate balance of n-3 and n-6 fatty acids of SFO favored its use by fish as energy source and essential nutrient.

The authors are indebted to Conselho Nacional de Desenvolvimento Científico e Tecnológico (National Council of Scientific and Technological Development - CNPq) for partial funding of the research. TBAS holds CNPq scholarship; JKD is Embrapa researcher, and JEPC is a CNPq research scholar.