

## **Effect of flaxseed and flaxseed oil supplemented in caiman diet on meat fatty acids**

**Pamela M.L. Leiva<sup>1,2,3</sup>, Antonio E. Frutos<sup>1,3</sup>, Jimena Lavandera<sup>4</sup>, Melina S. Simoncini<sup>\*1,2,3</sup>, María Carla Labaque<sup>5,6</sup>, Carlos I. Piña<sup>1,2,3</sup> and Marcela A. González<sup>4</sup>**

<sup>1</sup>CICyTTP-CONICET/Prov. Entre Ríos/UADER, España 149, CP. 3105, Diamante, Entre Ríos, Argentina (pameleiva4@gmail.com)

<sup>2</sup>Proyecto Yacaré, Laboratorio de Zoología Aplicada: Anexo Vertebrados, FHUC/UNL, Aristóbulo del Valle 8700, CP. 3000, Santa Fe, Santa Fe, Argentina (melinasimoncini22@yahoo.com.ar).

<sup>3</sup>Facultad de Ciencia y Tecnología, Universidad Autónoma de Entre Ríos, Tratado del Pilar 314 CP 3105, Diamante, Entre Ríos, Argentina.

<sup>4</sup>Cátedra de Bromatología y Nutrición, Departamento de Ciencias Biológicas, Facultad de Bioquímica y Ciencias Biológicas-Universidad Nacional del Litoral (FBCB-UNL). Ciudad Universitaria. Paraje el Pozo S/N. CP. 3000 Santa Fe, Santa Fe, Argentina.

<sup>5</sup>Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Instituto de Investigaciones Biológicas y Tecnológicas (IIByT), Avenida Vélez Sarsfield 1802 CP. 5000 Córdoba, Córdoba, Argentina.

<sup>6</sup>Universidad Nacional de Córdoba, Facultad de Ciencias Exactas, Físicas y Naturales, Instituto de Ciencia y Tecnología de los Alimentos (ICTA), Avenida Vélez Sarsfield 1802 CP. 5000, Córdoba Córdoba, Argentina.

***Abstract:*** Polyunsaturated or long chain fatty acid increment in meat for human consumption improves both nutritional quality, and consumer perception. Increment could be produced by addition of rich sources of fatty acids of omega-3 family (such as flaxseed or flaxseed oil) to the animal diet. We measured fatty profile in two different caiman meat cuts (neck and tail) from animals raised in individual enclosures, fed during 30 days with regular diet supplemented with: 10% crashed flaxseed (CF treatment), and 10% flaxseed oil (FO treatment). Animals were fed 5 times a week with regular diet (crashed chicken head and dry balanced food 70/30), and one day that food was supplemented with CF or FO depending on assigned treatment. After 30 days animals were processed, and tissues sampled were obtained (meat cuts from tail and neck). CF treatment did not improved caiman meat quality. On the other hand, meat (tail and neck) from FO treatment have reduced level C16:0, and increment of C18:1 t10, C22:5n-6, C22:5n-3, C22:6n-3 (DHA), total unsaturated fatty acids, fatty acids of n-3 family, and the ratio n-6/n-3 was reduced. Diet enrichment with flaxseed oil once a week, during 30 days has improved omega-3 fatty acid in caiman meat, producing positive effects to consumers' health. In order to be implemented in caiman farms, the cost of flaxseed oil is about 20 times more expensive than flaxseeds (but you should need more seeds since 10% once a week did not improved meat fatty acid profile), on the other hand it is easier to manage oil, and you save crashing time and costs.

***Keywords:*** Broad-snouted caiman; Enrichment products; Management program; Polyunsaturated Fatty acids.

***Type of Presentation:*** Oral

***Thematic Area:*** Ex situ Conservation (P5: Veterinary)