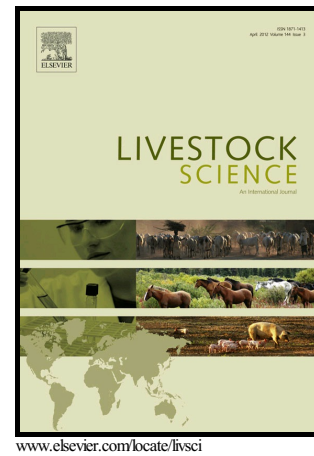


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**Supplementation of diets with omega-3 fatty acids from microalgae: effects on sow reproductive performance and metabolic parameters**

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**Abstract**

Supplementation of diets with omega-3 polyunsaturated fatty acids (PUFA) may benefit sow reproductive performance, but the efficiency of algae as a source of PUFA is still unknown. This study evaluated serum levels of metabolic markers and reproductive performance of sows supplemented with the heterotrophic microalgae *Schizochytrium sp.* Sows (n = 596) were supplemented from the 85<sup>th</sup> day of gestation, during lactation and until the weaning-estrous interval (WEI). Microalgae were included at five levels: 0 (control); 3.5; 7.0; 14.0; and 28.0 g/d. Blood samples were collected at the 85<sup>th</sup> day of gestation, at the 10<sup>th</sup> d of lactation and at the last day prior to weaning (WEI). Serum levels of cholesterol, triglycerides, insulin-like growth factor type-1 (IGF-1) and non-esterified fatty acids (NEFA) were evaluated. At the parity concurrent with the supplementation, no effects were observed on stillborn rates ( $P > 0.05$ ), sows fed 28.0 g/d farrowed heavier piglets than sows fed lower levels ( $P < 0.05$ ), but the WEI for sows fed 7.0 g/d was longer than for the control ( $P < 0.05$ ). Serum levels of triglycerides were decreased during gestation, only for sows supplemented with 14.0 and 28.0 g/d ( $P < 0.05$ ). At the subsequent parity, there was no difference on stillborn rates and total

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