中国农学通报 2011, 27(第17期7月) 62-66 DOI: ISSN: 1000-6850 CN: 11-1984/S

水产—研究报告

尼罗罗非鱼鱼体能量密度预测模型初探

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摘要:

2009年7-8月于养殖群体中随机抽取93尾尼罗罗非鱼作为实验样本，逐尾测定肌肉、肝脏、性腺和肠脂的能量密度等相关生化成分，选择与能量密度相关显著的生化成分作为预测因子，分别建立肌肉等组织的能量密度预测方程。结果表明尼罗罗非鱼肌肉和肝脏能量密度与各自粗脂肪含量的相关关系均达极显著水平（P<0.01），经协方差分析后分别建立公共方程为Em = 0.196 Fm + 21.931（r=0.902）和El = 0.187 Fl + 19.697（r=0.914）。肠脂能量密度与其干物质含量相关极显著（P<0.01），建立雌雄公共方程为Ef = 0.159 Df + 23.973（r=0.917）。经统计分析，卵巢和精巢的理想预测因子分别为粗脂肪含量和干物质含量，分别建立预测方程为Eo = 0.118 Fo + 25.493（r=0.909）和Es = 0.268 Ds + 19.697（r=0.905）。

关键词： 预测方程

Preliminary Studies on Predicting Models for Energy Density in Fish Body of Oreochromis niloticus

Abstract:

Total ninety-three samples of Oreochromis niloticus were selected randomly from cultured population in July and August 2009, and related biochemical components in muscle, liver, gonad and mesenteric fat of each sample were mensurated. Some components which have significant correlation with energy density were selected as predicting factors, and then predicting equations for energy density of different tissues were established. The results showed that there were significant linear relationships between energy density and crude fat content in muscle and liver(P<0.01), by analysis of covariance on the regression equations, two common predicting equations for energy density in muscle and liver were established as following: Em = 0.196 Fm +21.931 (r = 0.902) and El = 0.187 Fl +19.697 (r = 0.914). The significant linear relationship could also be found between energy density and dry mass content in mesenteric fat(P<0.01), and the correlation could be described as Ef = 0.159 Df + 23.973（r=0.917）. Through statistical analysis, crude fat content and dry mass content were selected as predicting factors respectively for ovary and spermary, and the respective predicting equation were established as following: Eo = 0.118 Fo + 25.493（r=0.909）and Es = 0.268 Ds + 19.697（r=0.905）.

Keywords: predicting equation

收稿日期 2010-11-03 **修回日期** 2010-12-08 **网络版发布日期** 2011-07-15

DOI:

基金项目:

公益性行业（农业）科研专项“长江下游水生生物增殖放流研究及数字化平台开发”

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参考文献：

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1. 李春兰 陆贵巧 张冬冬 谷建才.中国主要农产品人均占有量的向量自回归预测[J]. 中国农学通报, 2009,25(20): 302-305