

水产—应用研究

饥饿后再投喂对异育银鲫血液生理和非特异性免疫指标的影响

董学兴<sup>1</sup>, 吕林兰<sup>2,2</sup>, 黄金田<sup>2,2</sup>, 王爱民<sup>2,2</sup>, 於叶兵<sup>2,2</sup>

1. 盐城工学院

2.

摘要:

摘要: 对体重(15.6±0.84)g的异育银鲫(Carassius auratus gibelio)进行了不同时间的饥饿处理和再投喂恢复生长实验。研究饥饿和再投喂后对其血液生理指标和非特异性免疫指标的影响。研究发现, 饥饿使血糖和MDA含量极显著降低(P<0.01), 随饥饿时间的延长, SOD活性显著下降后逐渐升高, 短期饥饿对ACP活性无显著影响, 进一步延长饥饿时间则先升高后显著下降(P<0.01); 恢复投喂后, 短期饥饿组血糖浓度、SOD和ACP活性均显著上升, 中期饥饿组血糖、血红蛋白含量和ACP活性逐渐上升, SOD活性和MDA含量显著下降(P<0.05), 长期饥饿组血糖和MDA含量显著低于对照组(P<0.01), ACP活性逐渐恢复到对照水平。结果表明, 短期饥饿后再投喂可提高异育银鲫代谢水平和非特异性免疫机能。

关键词: 非特异性免疫

The effect of starvation and refeeding on the blood physiological and non-specific immune parameters in Carassius auratus gibelio

Abstract:

Abstract: The effect of starvation periods and refeeding on blood physiological and non-specific immune parameters in Carassius auratus gibelio(15.6 ±0.84) were studied. Compared to the control, the content of blood glucose and malondialdehyde (MDA) were significantly decreased during starvation (P <0.01 ). The starvation led an initial significantly decreased superoxide dismutase (SOD) activity followed by increased. The phosphatase (ACP) activity was not effected in short-term starvation, however prolong the starvation, ACP activity increased, but then sharp declined (P<0.01). The content of blood glucose and MDA, the activity of SOD and ACP were significantly increased in short-term starvation group after re-feeding. The content of blood glucose and Hb , ACP activity also increased, however, SOD activity and content of MDA were significantly declined in middle-term starvation (P<0.05) after re-feeding. The content of blood glucose and MDA were remarkable declined compared to control, but ACP activity was gradually restored to the control level in long-term starvation after re-feeding. The results showed that short-term hunger and then re-feeding could enhance metabolism and non-specific immune function of Carassius auratus gibelio .

Keywords: non-specific immune

收稿日期 2011-03-04 修回日期 2011-06-12 网络版发布日期 2011-09-21

DOI:

基金项目:

2010年江苏省水产三项工程项目; 盐城市农业科技项目

通讯作者: 董学兴

作者简介:

作者Email: dxx@ycit.cn

参考文献:

参考文献:

[1]吴立新,董双林.水产动物继饥饿或营养不足后的补偿生长研究进展[J].应用生态学报, 2000, 11 (6) :

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF(1373KB)
- ▶ [HTML全文]
- ▶ 参考文献[PDF]
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

- ▶ 非特异性免疫

本文作者相关文章

- ▶ 董学兴
- ▶ 吕林兰
- ▶ 黄金田
- ▶ 王爱民
- ▶ 於叶兵

PubMed

- ▶ Article by Dong,H.X
- ▶ Article by Lv,L.L
- ▶ Article by Huang,J.T
- ▶ Article by Yu,A.M
- ▶ Article by Yu,X.B

- [2]洪磊,张秀梅.环境胁迫对鱼类生理机能的影响[J].海洋科学进展,2004,22(1):114-121.
- [3]孙红梅,黄权,丛波,等.饥饿对黄颡鱼免疫机能的影响[J].水利渔业,2006,26(3):80-81.
- [4]吕林兰,董学兴,陶春,等.饥饿后再投喂对异育银鲫生长和体成分的影响[J].淡水渔业,2008,38(4):53-56.
- [5]钱云霞,陈惠群,孙江飞.饥饿对养殖鲈鱼血液生理生化指标的影响[J].中国水产科学,2002,9(2):133-137.
- [6]胡海彦,宋迁红,韩军涛,等.饥饿对不同体重组团头鲂肌肉和血清生化成分的影响[J].中国农学通报,2010,26(24):408-411.
- [7] T. E. Gillis, J. S. Ballantyne. The effects of starvation on plasma free amino acid and glucose concentrations in lake sturgeon [J]. J Fish Biol, 1996, 49 (6) :1306 -1316.
- [8]吴蒙蒙,李吉方,韩照峰,等.饥饿和恢复投喂对金鲢体组分和糖原含量的影响[J].中国海洋大学学报,2009,39(1):56-60.
- [9]杜启艳,王萍,王友利,等.长期饥饿和再投喂对泥鳅不同组织糖原、酸性磷酸酶和碱性磷酸酶的影响[J].江西师范大学学报,2008,32(4):488-493.
- [10]王沛宾,林学群,尹秀芬.饥饿与恢复投喂对红鳍笛鲷血液生化指标的影响[J].水产养殖,2004,25(5):31-34.
- [11]王庆奎,姜志强,王静波,等.饥饿和恢复投喂对牙鲆代谢的影响[J].大连水产学院学报,2004,19(4):248-251.
- [12]杨继军,郭长江,韦京豫,等.全饥饿对大鼠外周血抗氧化防御系统功能的影响[J].解放军预防医学杂志,2004,22(2):90-92.
- [13]尚云云,夏艳洁,郑伟,等.饥饿对德国镜鲤非特异性免疫系统的影响[J].吉林农业,2010(6):50-51.
- [14] 陈晓耘.饥饿对南方鲢幼鱼血液的影响[J].西南农业大学学报,2000,22(2):167-169,176.

#### 本刊中的类似文章

1. 许传田.中药产品甙肽对猪高热病防治效果分析[J].中国农学通报,2010,26(22):16-19
2. 董世山 王丽叶 马利芹 徐倩倩 张晓利 霍晓青 褚军 薛晓阳 陈立功.葱乙醇提取物对小鼠免疫功能的影响[J].中国农学通报,2010,26(20):7-10
3. 陈萍,李健,李吉涛,刘萍,高保全.不同地理群体三疣梭子蟹非特异性免疫功能的比较[J].中国农学通报,2008,24(11):496-499